

CITY OF BIGGS

GENERAL PLAN 1997 - 2015



CITY OF BIGGS
3016 SIXTH STREET
BIGGS, CALIFORNIA 95917

PACIFIC MUNICIPAL CONSULTANTS



JANUARY 12, 1998

TABLE OF CONTENTS

I.	INTRODUCTION	
i.1	Community Overview	i-1
i.2	Legal Basis and Requirements of the General Plan	i-3
i.3	General Plan Overview	i-6
1.	LAND USE	
	Introduction and Setting	1-1
1.1	Land Use Goals, Policies and Implementation Programs	1-7
1.2	Land Use Plan and Designations	1-9
1.3	Special Planning District	1-13
1.4	Economic Development	1-19
2.	CIRCULATION AND TRANSPORTATION	
	Introduction	2-1
2.1	Roadway Network	2-3
2.2	Roadway Improvement Standards	2-12
2.3	Road Maintenance	2-14
2.4	Pedestrian and Bicycle Circulation	2-16
2.5	Railroad	2-20
2.6	Public Transit	2-22
3.	COMMUNITY ENHANCEMENT	
	Introduction	3-1
3.1	Community Character	3-2
3.2	Community Design Guidelines	3-6
3.3	Historic Preservation	3-11
3.4	Recreation	3-18
3.5	Community Services	3-21
4.	PUBLIC FACILITIES	
	Introduction	4-1
4.1	General Infrastructure	4-1
4.2	Public Water System Facilities	4-2
4.3	Wastewater Disposal	4-6
4.4	Storm Drainage Facilities	4-8
4.5	Electrical Utility Service Facilities	4-11
4.6	Solid Waste Management	4-13
5.	OPEN SPACE AND CONSERVATION	

	Introduction	5-1
5.1	Managed Resource Production	5-2
5.2	Biological Resources	5-5
5.3	Air Quality	5-7
5.4	Water Resources	5-10
6.	PUBLIC HEALTH AND SAFETY	
	Introduction	6-1
6.1	Emergency Preparedness	6-1
6.2	Flood Hazard	6-3
6.3	Fire Protection	6-7
6.4	Police Protection	6-9
6.5	Geologic Hazards	6-11
6.6	Hazardous Waste and Materials	6-14
6.7	Rail Service Related Hazards	6-15
7.	NOISE	
	Introduction	7-1
7.1	Goals, Policies and Programs	7-3
7.2	Noise Measurement	7-6
7.3	Community Noise Survey	7-7
7.4	Roadway Noise	7-9
7.5	Railroad Noise	7-11
7.6	Industrial Noise	7-13

TABLES

1. Existing Land Uses	
2. Zoning Compatibility	
3. Population Statistics from 1970 to 1990	
4. Population Growth Projected Thru 2010	
5. Projected Land Use in Acres	
6. Water Usage Statistics	
7. Fault Zone Evaluation	
8. Modified Mercalli Intensity Scale	
9. Definitions	
10. Noise Standards Guidelines for Selected Land Uses	
11. Community Noise Environment	
12. Typical Outdoor Noise Environments	
7.1 Noise Level Performance Standards - Non-Transportation Noise Sources	
7.2 Maximum Allowable Noise Exposure - Transportation Noise Sources	
7.3 Traffic Related Noise Contours	
7.4 Railroad Related Noise Contours	
7.5 Estimated Day-Night Average Noise Levels in Residential Areas	
6. Railroad Noise	

FIGURES

1. Existing Zoning	
2. Biggs Circulation Transportation	
3. Bike Ways	
4. City Park	
5. Liquefaction	
6. Railroad Noise	
7.1. Noise Compatibility by Land Use Type	
7.2. Examples of Sound Levels	
7.3. Noise Monitoring Locations	
7.4. Existing Noise Contours	
7.5. 2020 Build-Out Noise Contours	
6. Railroad Noise	

1. LAND USE



Aerial View of Tree Lined Streets of Biggs

- Introduction
- 1.1 Land Use Goals, Policies and Programs
- 1.2 Land Use Plan and Designations
- 1.3 Special Planning Districts
- 1.4 Economic Development

INTRODUCTION

LEGAL BASIS AND REQUIREMENTS

Government Code Section 65302 (a) requires that the general plan include:

"A land use element which designates the proposed general distribution and general location and extent of all uses of the land including land for housing, business, industry, open space, including agriculture, natural resources, recreation and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid disposal facilities, and other

categories of public and private uses of land. The land use element shall include a statement of the standards of population density and building intensity recommended for the various districts and other territory covered by the plan. The land use element shall identify areas covered by the plan which are subject to flooding and shall be reviewed annually with respect to those areas."

The general plan is also required to maintain consistency between individual elements. Because of the nature of topics addressed in the Land Use Element, all other elements of the general plan overlap land use issues and topics to varying degrees.

The Circulation Element addresses the transportation network that allows people, vehicles and goods to move freely from one land use area to another. The Housing Element addresses the availability, type and condition of housing within the community. The Safety Element considers issues of flooding and other community hazards. The Noise Element considers conflicts between noise generating and noise sensitive land uses. Community Enhancement, an optional element, addresses land use related issues which contribute to the community's character and create a desirable urban environment, including community recreation. Public Facilities considers the physical facilities which provide drainage, domestic water and wastewater treatment services within the community.

OVERVIEW

This element is comprised of five sections. *Introduction* discusses the content of the element, documents existing land uses and community demographics and provides projections for land use demands within Biggs through the year 2015. *Land Use Goals, Policies and Programs* presents City policy for all land use issues other than economic development. *Land Use Plan and Designations* includes the land use diagram,

describes land use designations and notes allowed zoning for each land use designation. *Special Planning Districts* describes major planning issues for seven future development areas within and adjacent to the City of Biggs and describes the City's vision for each area. *Economic Development* describes current economic conditions and goals and policies intended to revitalize the economy of Biggs.

LAND USE SETTING

EXISTING LAND USES

The City limit of Biggs encompasses an area of about 338 acres that is predominantly residential. By comparison, employment generating uses and vacant land available for development within the City are limited.

By far the largest land use in Biggs is residential. Most of the housing consists of single-family dwellings. There are no mobile home parks in the City. More details on the condition of the local housing stock are provided in the Housing Element.

Commercial and industrial land uses in Biggs have been experiencing a decline for a number of years. This change is due to a number of factors. Large retail stores with more selection and lower prices have drawn shoppers from Biggs to Oroville, Chico, Yuba City and Gridley. Several retail stores in Biggs have experienced significant decreases in sales, forcing some stores out of business and leaving vacant store fronts in the previously busy commercial area.

The industrial base in Biggs for many years has been rice processing and handling. The temporary closing of the only rice mill and storage facility within the City limits caused a serious loss of jobs and decline in electric utility revenues. Comet Rice has recently leased this mill located near Bannock and Eighth Streets and operates the facility as a secondary mill when demand exceeds the capacity of their primary mill in Maxwell.

reduced operation of the rice mill have had a serious effect on the economy of the City. The City is presently searching for ways to revitalize its commercial district and to rebuild or replace its lost industrial uses.

Public uses include schools, City utilities and City parks. The Biggs Community Park (7 acres), and Cork Oak Park (1 acre) are located within the 43+/- acre site of the Biggs Unified School District property. The City wastewater plant occupies about 9 acres. Drainage facilities, including channels and detention basins, are also considered public land uses.

PLANNING BOUNDARIES

Various boundaries are established to define the level of authority of the local agency. With regard to land use planning for a city, these boundaries are the city limits, the sphere of influence and the planning area.

Within the city limits the city is the primary land use authority and is responsible for the review and approval of land use proposals. The sphere of influence includes surrounding lands where the city is likely to expand in the near future. Review and approval of land use proposals in the sphere rests with the decision making body of the surrounding county. However, county decisionmakers will consider the plans of a city when reviewing development proposals within the city's sphere influence. The planning area is a boundary which is defined by the city and encompasses those lands where the city has interests and concerns. A city has little authority on land use decisions for land that is within its planning area but outside of its sphere.

City of Biggs boundaries for these areas are depicted on *Figure 1.1 - Planning Boundaries*.

Both the change in retail shopping and



FIGURE 1.1
PLANNING BOUNDARIES

POPULATION AND DEMOGRAPHICS

Forecasts of the amount of land required to meet a community's demand for urban expansion form the basis for long-range land use planning decisions. Such forecasts tend to rely on a combination of information on historic growth rates and somewhat uncertain projections of market and economic factors.

The 1977 Biggs General Plan anticipated that the growth rates of the 1960's and early 1970's would continue. This led to a belief that the population of Biggs would increase from a 1975 level of 1,377 persons to 2,200 by 1995. In fact, the 1995 population of Biggs was 1,640. As described in the following tables, Biggs has generally enjoyed a steady rate of growth. However, the growth rate for the period from 1990 through 1996 was the lowest since Biggs incorporated in 1903.

TABLE 1.1 GROWTH RATE, 1930 - 1990		
Year	Population	Average Increase
1930	436	2.2% (1930-40)
1940	547	3.7% (1940-50)
1950	784	0.6% (1950-60)
1960	831	3.0% (1960-70)
1970	1,115	2.4% (1970-80)
1980	1,413	1.2% (1980-90)
1990	1,581	0.5% (1990-96)
1996	1,640	

Source: City of Biggs Housing Element,
1990 U. S. Census

Table 1.1 - Growth Rate, 1930 - 1990 presents historic population growth data for the City of Biggs. *Table 1.2* notes growth rates from 1990 through 1996, based on Department of Finance estimates as of June, 1997. The average annual growth rate for this six year period is approximately 0.5%. A single year of rapid growth from 1990 to 1991 represents

the completion of 18 new single family homes. The reduction in population for the 1992 through 1994 period is somewhat common for California cities as economic conditions led to out-migration to other states.

TABLE 1.2 GROWTH RATE, 1990 - 1996		
Year	Population	Annual Increase
1990	1,581	3.1% (1/90-12/90)
1991	1,630	0% (1/91-12/91)
1992	1,630	-0.6% (1/92-12/92)
1993	1,620	-0.6% (1/93-12/93)
1994	1,610	1.8% (1/94-12/94)
1995	1,640	0% (1/95-12/95)
1996	1,640	

Source: State of California Department of Finance

PROJECTED POPULATION

Table 1.3 - Projected Population Growth, identifies the future population of Biggs based upon various growth rates. These projections form the basis for anticipating land required to meet future development needs.

During the decade of 1980 to 1990 the population growth rate was about 1.2 percent per year. Over the longer thirty year term of 1970 through 1997 the City population grew at a rate of approximately 1.45% annually. Various scenarios of growth to the year 2015 are depicted in *Table 1.3* using growth rates of 1.5 percent, 2.0 percent and 2.5 percent per year. It is expected that the growth rate in Biggs will fall between one and two percent during the next 18 years as families are attracted to Biggs by affordable housing and the desire to raise children in a small town setting.

TABLE 1.3 PROJECTED POPULATION GROWTH				
ANNUAL GROWTH RATE				
	1.0%	1.5%	2.0%	2.5%
1997	1,640	1,640	1,640	1,640
2000	1,690	1,715	1,740	1,766
2005	1,776	1,847	1,922	1,998
2010	1,866	1,990	2,122	2,261
2015	1,962	2,144	2,342	2,558

Source: City of Biggs

PROJECTED LAND USE DEMANDS

Based upon a 2% annual growth rate, the City will need housing for an additional 702 residents by the year 2015. Given an average household size of 3.03 persons, Biggs will need approximately 231 new homes to satisfy the community's housing needs.

It is noteworthy that the 2.0% growth rate assumed within this General Plan is optimistic. Unless regional conditions change significantly in coming years an average growth rate of 1% to 1.5% annually is more likely. However, planning for a 2% growth rate ensures that the General Plan will accommodate development should economic conditions within the region improve.

Currently, Biggs could accommodate approximately 25 infill dwelling units within existing neighborhoods. Additionally, the Southfield Manner subdivision has added 25 new lots which will be built on in the near future. Assuming a development potential of 50 new homes within the existing City limits (25 infill and 25 at Southfield), at least 181 additional dwelling units will be required on land outside the existing City limits.

New development areas surrounding the City are described under Special Planning Districts. *Table 1.4 - Development Capacities within Special Planning Districts* notes that 70 new single family homes may be built in the North Area Residential District and that 111 single family homes may be built in the South Area Residential District. These development areas contain significantly more land than will be required for the allowed dwelling units. Additionally, the North Area Residential District will accommodate up to 120 attached dwelling units on land designated as High Density Residential. Designation of the High Density Residential Land satisfies Program 1.4 of the adopted Biggs Housing Element.

Non-residential land use types required to meet the needs of the community include public (schools, parks, wastewater treatment, flood control, etc.), industrial and commercial.

Public uses shall be accommodated on land outside the City and primarily on land designated as Agriculture. The Biggs Unified School District owns 30 acres of undeveloped (in addition to the High School farm) adjacent to the existing school site. This area will meet the schools needs and may also allow development of new park land. Additional park land shall be developed within areas designated for residential development. Expansion of the wastewater treatment plant, if necessary, will occur on agricultural land to the west of designated urban uses.

Expansion of commercial and industrial uses has been quite slow in recent years. This General Plan assumes between 10 to 30 acres of new industrial development could occur by 2015. Commercial development assumed under this Plan includes intensified uses along B Street and 3 to 5 acres of new commercial development along Sixth Street near the southern City limits.

SPECIAL DISTRICT DEVELOPMENT POTENTIAL

Based upon historic growth rates the land designated for urban development within this General Plan is significantly greater than will be required to meet development demand. However, limiting potential sites may discourage beneficial development projects. Therefore, this General Plan designates more than adequate area for new development, but imposes restrictions on the amount of development which may occur in any given area. This allows flexibility for the potential developer while ensuring that new development will not compromise the quality of life in Biggs.

Specifically, the development capacities listed below have been analyzed to ensure that

future growth will not significantly impact vehicle traffic within the community. The General Plan traffic analysis found that development up to the short-term levels identified below would not result in significant traffic impacts. If a proposed development project will exceed the short-term capacity of an area listed below, then additional traffic analysis will be required. If a development proposal would exceed the long-term capacity listed below, a General Plan amendment would be required regardless of land use compatibility.

Figure 1.3 - Special Planning Districts identifies the boundaries of the districts. The character of development anticipated within each district is discussed under section 1.4 *Special Planning Districts*.

TABLE 1.4 - DEVELOPMENT CAPACITIES WITHIN SPECIAL PLANNING DISTRICTS			
Special District	Existing Development Dwellings/Employees	Short Term Capacity Dwellings/Employees	Long Term Capacity Dwellings/Employees
B Street Commercial	69 Employees	104 Employees	139 Employees
North Area Residential	8 Single Fam. D.U.	78 Single Fam. D.U. 120 Attached D.U. ¹	148 Single Fam. D.U. 120 Attached D.U.
South Area Residential	14 Single Fam. D.U.	125 Single Fam. D.U.	236 Single Fam. D.U.
West Area Industrial	35 Employees	113 Employees ² (5 acres new industrial) (3 acres new commercial)	190 Employees (20 acres new industrial) (5 acres new commercial)
North Area Industrial	11 Employees	66 Employees (5 acres new industrial)	121 Employees (10 acres new industrial)

¹ Accommodation of 120 attached dwelling units satisfies Program 1.4 of the adopted City of Biggs Housing Element. Ultimate development of these units will occur based upon demand and market conditions.

² Employment estimates are based upon an average of 11 employees per acre for industrial and commercial development.

1.1 LAND USE GOALS, POLICIES AND PROGRAMS

Listed below are policies and programs which address major land use issues and concerns within Biggs. Many of these issues are also addressed in further detail within other elements of this General Plan.

GENERAL

GOAL 1.1

Maintain and promote the qualities which make Biggs a desirable community.

POLICY 1.1.A

Encourage the preservation and restoration of significant historic structures.

POLICY 1.1.B

Ensure that individual development projects conform to an overall plan for the community and that consideration is given to the configuration of adjacent areas to be developed in the future.

PROGRAM 1.1.1

Enact programs for rehabilitation and repair of existing sound residential, commercial and industrial buildings.

PROGRAM 1.1.2

Develop a more active program to remove blight and seriously sub-standard buildings, including methods for more effective enforcement of City Ordinances.

PROGRAM 1.1.3

Actively pursue annexation of lands outside the present City limits to allow for coordinated, long-term planning and to reduce approval of incompatible uses on unincorporated land adjacent to the City.

PROGRAM 1.1.4

Prepare a comprehensive City Code which includes, organizes and updates existing resolutions and ordinances of the City.

PROGRAM 1.1.5

Upon completion of a comprehensive City Code, the Planning Commission shall conduct a review of planning and development codes to identify sections which require clarification or additional detail, including but not limited to:

- revise zoning classifications consistent with the General Plan
- provisions for in-home businesses
- allowed uses in each zoning category
- regulations for advertising signs
- maximum structure heights
- resolution of previous Residential Trailer designations

PROGRAM 1.1.6

Upon completion of Zoning Ordinance revisions described in Program 1.1.5, revise zoning designations of specific parcels as necessary to achieve consistency between the General Plan and zoning designations within the City.

PROGRAM 1.1.7

Establish a Design Review process and apply the Interim Design Guidelines presented within the Community Enhancement Element when reviewing future development projects.

PROGRAM 1.1.8

Prepare and adopt permanent Design Guidelines for the review of residential, commercial and industrial development projects.

RESIDENTIAL

POLICY 1.1.C

Require future residential development projects to promote the small town character of Biggs through project design and development.

PROGRAM 1.1.9

Pursue opportunities to establish a minimum care senior housing facility in Biggs.

PROGRAM 1.1.10

Revise the zoning code to include consistent zones for the following residential land use categories:

Low Density	2 to 6 units per acre
Medium Density	5 to 14 units per acre
High Density	6 to 20 units per acre

PROGRAM 1.1.11

Secure and make available to the community funds for renovating or restoring commercial and residential structures throughout the community.

COMMERCIAL

POLICY 1.1.C

New construction and renovation of existing structures for commercial uses along B Street shall be designed to promote the historic character of the downtown area.

POLICY 1.1.D

Direct new commercial development to the existing commercial corridor of B Street between Fifth Street and Seventh Street and along Sixth Street south of Bannock Street.

POLICY 1.1.E

Consider commercial uses within residential zones only when such uses are in the interests of the community as a whole.

INDUSTRIAL

POLICY 1.1.F

Avoid development which results in land use incompatibility. Specifically, avoid locating objectionable land uses within residential neighborhoods and protect areas designated for existing and future industrial uses from encroachment by sensitive (residential) uses.

POLICY 1.1.G

Endeavor to provide suitable sites for development of industrial uses within the City.

PROGRAM 1.1.12

Conduct an evaluation of designated industrial sites within the City to establish the availability of existing public improvements and the feasibility of providing improvements and services in a timely fashion.

SPECIAL PLANNING DISTRICTS

POLICY 1.1.H

New development shall generally conform to the guidelines and development vision for the various areas described under Section 1.4 Special Planning Districts of this element.

PROGRAM 1.1.13

Require applicants for new development projects to describe how the proposed project relates to and conforms with the City's vision for the area as described under Section 1.4 Special Planning Districts.

GROWTH MANAGEMENT

POLICY 1.1.I

Proposed development projects shall not exceed the long-term development capacity allowed under this General Plan is specified in *Table 1.4 - Development Capacities within Special Planning Districts*.

POLICY 1.1.J

Development in any Special Planning District which exceeds the short-term total allowed within the District shall be analyzed for potential traffic impacts.

POLICY 1.1.K

Development in any Special Planning District which exceeds the long-term total allowed within the District shall only occur in conjunction with a General Plan amendment to increase the allowed level of development.

PROGRAM 1.1.14

Analyze new development projects to determine potential impacts to public facilities and community services. Apply mitigation measures and conditions to address potential impacts as a condition of project approval.

PROGRAM 1.1.15

Develop standard criteria for evaluating and mitigating impacts of development projects on City facilities and services.

PROGRAM 1.1.16

Annually review development occurring in the previous year and document the remaining amount of development allowed under short-term and long-term development capacities as specific within *Table 1.4 - Development Capacities within Special Planning Districts*.

1.2 LAND USE PLAN AND DESIGNATIONS

LAND USE DIAGRAM

The *Land Use Diagram - Figure 1.2* depicts the allocation of land in and around the City for various land uses. The diagram is intended to: 1) graphically define the land area allocated for each land use designation; 2) present the land use plan for Biggs in a form that can be understood by the general public as well as by people who wish to develop land; and 3) show the relationships of land use patterns in the City.

LAND USE DESIGNATIONS

Land use designations, intensity standards and the General Plan holding capacity are described below. The General Plan Land Use Diagram depicts the distribution, location and extent of the City's land uses.

Existing land uses have greatly influenced the distribution of uses within the land use diagram. The goals and policies established within other General Plan elements have also guided the assignment of future land uses. A range of interests and physical conditions have been considered and the land use diagram and land use designations present a workable plan for achieving the City's goals.

In addition to the development densities described below, this General Plan places numeric limits on the amount of development that will be allowed in areas of future development. Designated amounts of new development are identified under the *Introduction* section of this element. Designated levels of development are described as short-term and long-term. Analysis conducted within the Circulation Element of this General Plan assumed the maximum amount described as short-term development.

AGRICULTURE

The Agricultural land use classification encompasses the land outside designated urban development areas. The principal land use in this area is agricultural production. Agriculture is recognized as the dominant economic activity of the region. Preservation and protection of agricultural land uses is necessary to ensure the long term well being of the City.

Lands designated as Agriculture are located outside the City limits and the sphere of influence of Biggs and are not subject to the land use authority of the City. However, such lands will be needed to allow for future expansion of Biggs and the City's position is that Agricultural lands should remain undeveloped, to the maximum extent feasible, until such time as development can occur at urban densities.

In order to preserve land for both agricultural and future urbanization, the City supports a policy of no subdivisions of Agriculture designated land to parcels less than 20 acres in size. Development potential in the Agriculture classification is one dwelling unit per legal lot.

RESIDENTIAL

Residential uses can vary widely in development intensity. Characteristics of the intensity are: the number of dwelling units per acre; the number of people per dwelling unit; and, dwelling height and dwelling coverage per acre. These factors and others combine to create distinctive living environments.

Residential land uses are divided into three classifications based on dwelling unit density and corresponding population density.

LOW DENSITY RESIDENTIAL

This classification allows for development at a density of not less than 2 dwelling units per acre and not more than 6 dwelling units per acre. Corresponding population ranges, depending on housing density and types, would extend from 6 to 21 people per acre.

The dwelling types expected under this classification are single family detached houses on individual lots.

MEDIUM DENSITY RESIDENTIAL

This residential classification allows for development at a density of from 6 dwelling units per acre to not more than 14 dwelling units per acre. Assuming a household size of three persons, corresponding population ranges, depending on housing density and types, would extend from 18 to 42 people per acre. This classification is intended to provide a variety of residential living environments, including single family detached, duplex residences and two-story triplex and four-plex dwellings.

HIGH DENSITY RESIDENTIAL

This classification allows for development densities of 6 to 20 dwelling units per acre. The corresponding population range within this land use designation is from 18 to 60 persons per acres. This designation allows a broad variety of housing types, including single family detached, zero-lot line single family, duplex, triplex and four-plex units, townhouses, apartments and condominiums. Maximum building coverage of lots including the paved parking area should not exceed 70 percent of the net area of each project.

COMMERCIAL

Commercial land uses include offices, retail stores, personal services, and commercial services. These uses are all found in the present commercial area of Biggs. Some of the uses expected in this classification are: retail stores, professional offices, restaurants, automobile services, dry cleaners, and print shops. Some residential uses may be allowed by use permit.

INDUSTRIAL

Industrial land uses typically involve processing, handling, and creating products. This includes modern research and technology processes. Industrial uses are

classified as either *Industrial Light* or *Industrial*.

INDUSTRIAL LIGHT

This classification is intended to include industrial operations and facilities which produce little or no external noise, odors, glare, air pollution, fire hazards or safety hazards. Some commercial uses may occur with a use permit.

INDUSTRIAL

This classification accommodates industrial uses which may involve external noise, odors, glare, air pollution, fire hazards or safety hazards. Some commercial use may occur in these areas with a use permit. Typical uses include processing of agricultural products, heavy manufacturing and fabricating plants, and other uses which may produce conditions objectionable to sensitive land uses. These industrial uses are not compatible with residential land uses or areas of public activity (schools, parks, etc.) and should be separated from sensitive areas by other intermediate land uses or by buffer areas sufficient to mitigate the conflict.

PUBLIC

This classification includes public uses such as a school, library, police station, park, public water well, wastewater treatment plant, community building or other public facility. The size and scope of these uses is diverse, ranging from a mini neighborhood park to many acres for a wastewater treatment plant. These uses can generally be divided into three functional categories: education (schools); recreation (parks, swimming pool, etc.); and public facilities (water treatment, flood control, etc.).

RAIL

This designation is applied solely to the Union Pacific Railroad corridor passing through Biggs. No development may occur within this area and adjacent development must be reviewed for sensitivity to rail related impacts.

GENERAL PLAN/ZONING RELATIONSHIP

In addition to maintaining consistency within the General Plan, the General Plan and zoning designations must also be consistent and compatible. The General Plan land use designations and related zoning classifications are identified on *Table 1.5 - General Plan/Zoning Compatibility*.

TABLE 1.5 GENERAL PLAN /ZONING COMPATIBILITY	
GENERAL PLAN DESIGNATION	COMPATIBLE ZONING ¹
Residential Low Density	R-1 & R-2
Residential Medium	R-1 & R-2
Residential High	R-2 & R-3
Commercial	C-1 & C-2
Industrial Light	M-1
Industrial	M-2
Public	P
Agriculture	A
Rail	Restricted Use

¹ Several of the zoning designations identified within Table 1.5 will be either modified or added to the Biggs Zoning Code following adoption of the General Plan to achieve consistency with land use designations.

General Plan Land Use Diagram
Figure 1.2

1.3 SPECIAL PLANNING DISTRICTS

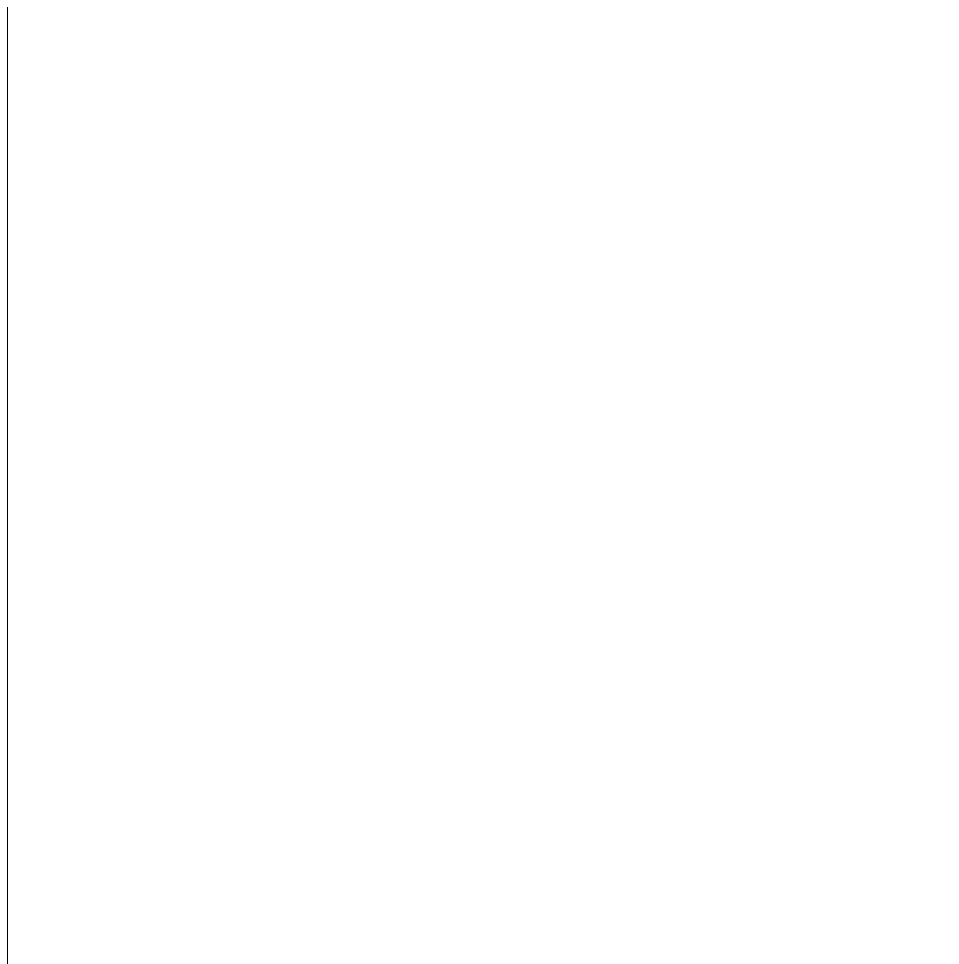


Figure 1.3 - Special Planning Districts

Special Planning Districts have been defined within this General Plan to document the major planning issues of areas which may be developed during the term of this General Plan. Additionally, the general character and anticipated uses envisioned by the City are described for each Special District. The seven Special Planning Districts are graphically depicted on *Figure 1.3 - Special Planning Districts*.

The Special Planning Districts are overlay designations which portray uses the City would encourage. For purposes of development, the base General Plan

designation as depicted on *Figure 1.2* and the parcel specific zoning designation describe the appropriate uses.

The following discussions address general development constraints. One constraint, drainage, will apply to all new development. Channels carrying runoff from Biggs are at full capacity downstream of the City. Therefore, all new development must contribute to facilities to retain runoff so as to avoid increasing the rate of runoff leaving the community. Specific plans for such drainage facilities will be prepared by the City and appropriate fees or other requirements shall be applied to all new development.

1. *B STREET CORRIDOR
COMMERCIAL DISTRICT*



Hotel Colonia within the B Street Commercial District

SETTING

The B Street Corridor Commercial District forms the downtown core of the community and includes virtually all the commercial businesses within Biggs. Significant historic structures along B Street include: the Colonia Hotel, the Biggs Carnegie Library and the Sacramento Valley Bank Building.

Commercial uses along B Street have been in a state of decline for more than 10 years due to a variety of conditions. Currently, numerous buildings on the south side of B Street are not occupied by active businesses.

CONSTRAINTS

The most immediate constraint to establishment of new businesses along B Street is the lack of available spaces for purchase or rent. Limited vacant land is located on the north side of B Street and could accommodate new construction. The underutilized buildings along the south side of B Street represent the greatest potential for

creating new business sites. However, the condition of these buildings is a concern and some of the structures may require significant improvements to meet current earthquake safety standards.

B STREET COMMERCIAL DISTRICT VISION

The City envisions the B Street Corridor remaining as the primary business district of Biggs. Ideally, businesses will occupy all structures along B Street between Sixth Street and Seventh Street, possibly extending further east or west as well, and will provide goods and services to meet the needs of the community.

Of particular interest is the restoration of the Colonia Hotel and reuse of the Brinks building which is located next to the Colonia. Another important component for the B Street corridor will be the opening of a restaurant(s) serving, at a minimum, breakfasts and lunches.

2. NORTH AREA RESIDENTIAL DISTRICT

Providing wastewater treatment service to

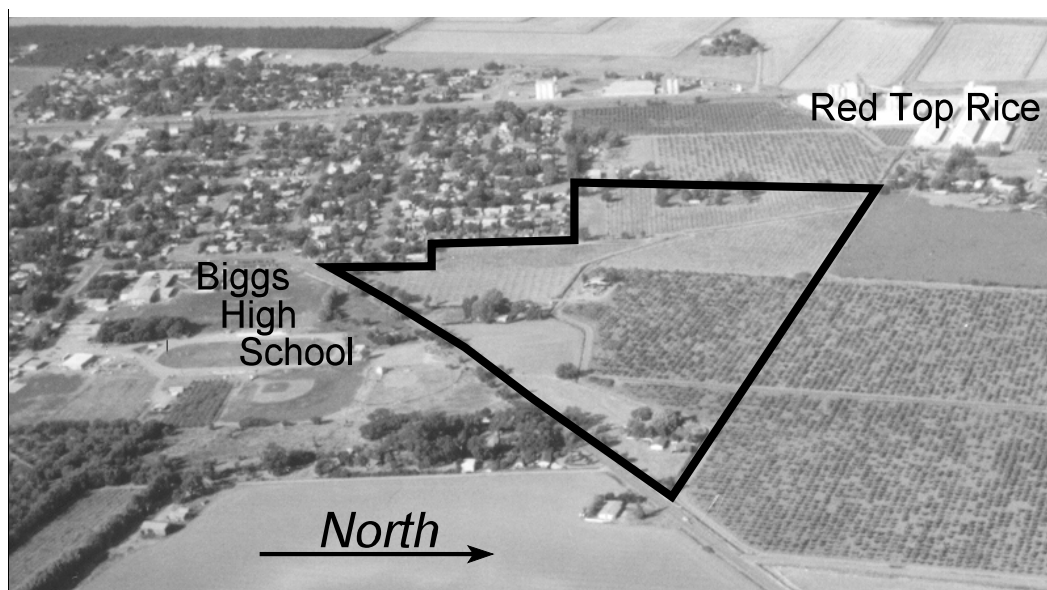


Figure 1.4 - North Area Residential District

SETTING

The North Area Residential District is located north of H Street, east of Fourth Street and northwest of Rio Bonito Road. This District is currently in primarily agricultural uses, interspersed with homesites.

CONSTRAINTS

Drainage is the major development constraint within this area. The existing drainage channel which conveys water from the Biggs Unified School District High School site, north along Second Street and around the northern boundary of Biggs represents a major concern. This channel currently operates at near to full capacity during major storms. Undergrounding of this channel will be required prior to full development of this area. One of the most problematic drainage areas within Biggs is located at the northern end of Second and Third Streets, directly adjacent to the North Area Residential District. These drainage issues must be addressed prior to development within this area.

this area may also be problematic due to the distance to the treatment plant and limited capacity in collection lines. Prior to development, project proponents in this area will be required to provide documentation of collection and treatment facility capacity and specific improvements that will be required to provide wastewater treatment service.

NORTH AREA RESIDENTIAL DISTRICT VISION

The City envisions this area to be developed in primarily residential uses as an extension of existing neighborhoods. The Biggs U.S.D. owns land directly across Rio Bonito Road from this area and the relationship between the proposed residential development and the existing and proposed school sites is considered a positive attribute.

3. SOUTH AREA RESIDENTIAL DISTRICT

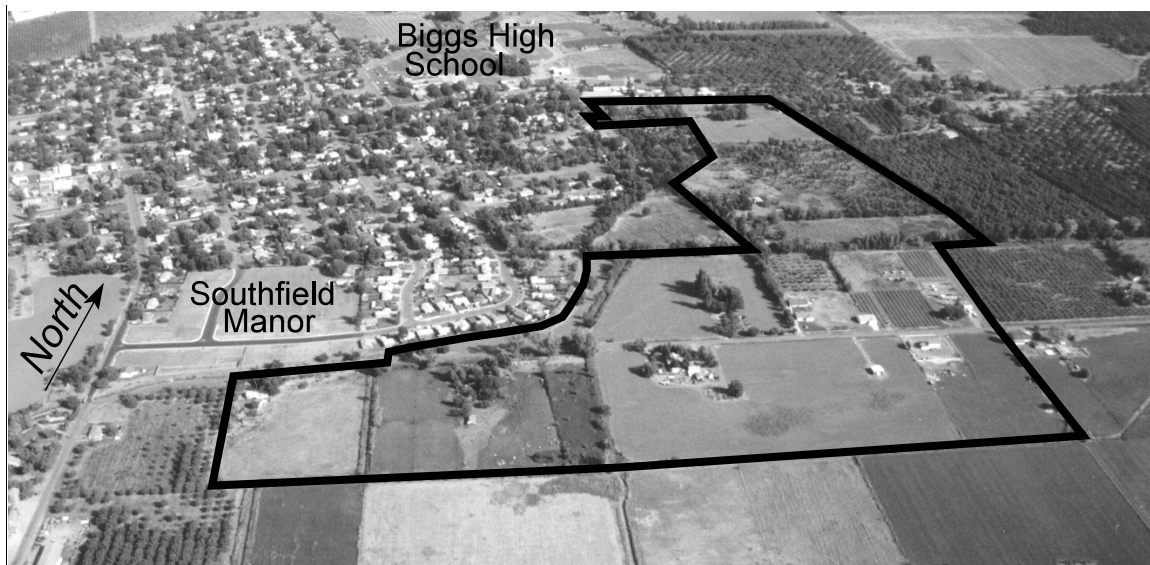


Figure 1.5 - South Area Residential District

SETTING

The South Area Residential District is located generally south and east of existing development. This area includes land adjacent to First and B Streets and wraps around the southeast corner of Biggs to encompass a portion of Dakota Avenue.

CONSTRAINTS

Drainage is the major development constraint within this area. Hamilton Slough is located directly north of Dakota Avenue along the westernmost section of the road. Immediately north of Hamilton Slough are the Pichotta and Southfield Manor subdivisions.

Reclamation District (RD) 833 has expressed strong concern over residential development immediately adjacent to Hamilton Slough. RD 833 will likely seek to require undergrounding of Hamilton Slough in the vicinity of new development as a condition of approval by the Butte County Local Agency Formation Commission (LAFCo) prior to annexation of South Area Residential District lands. However, the City will explore the possibility of expanding the Hamilton Slough

corridor to provide a recreational parkway and nature reserve.

Access to development from First Street is also a concern. First Street has not been constructed as a typical street and will require widening if it is to serve new development areas.

SOUTH AREA RESIDENTIAL DISTRICT VISION

The City envisions this area developed in primarily residential uses as an extension of existing neighborhoods. Eventually, Sixth Street will become one of the major entries to the City. Therefore, development in this area should support and contribute to the design elements of street design and landscaping which create attractive community entries.

Ultimately, development in this area should extend the established grid of the City streets and should provide roadway connections between B Street and Dakota Avenue.

4. WEST AREA INDUSTRIAL DISTRICT

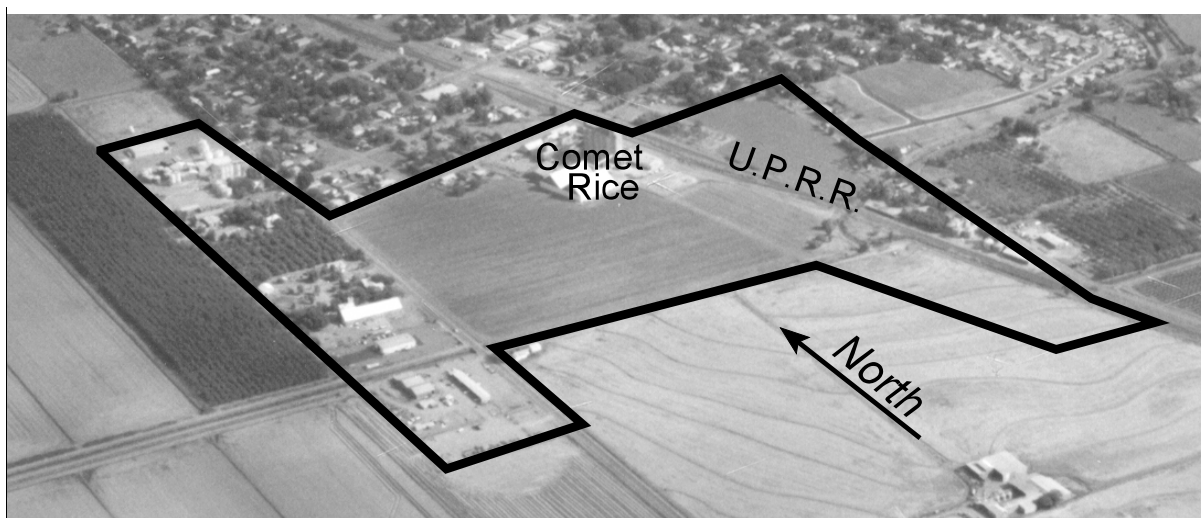


Figure 1.6 - West Area Industrial District

SETTING

The West Area Industrial District is located in the southwest portion of Biggs and is adjacent to the UPRC railroad tracks.

Constraints

Development in this area is relatively unconstrained. Potential concerns include noise generated by the railroad and the dust and noise generated by Comet Rice. However, the industrial uses anticipated for this area are not highly sensitive to the existing environmental constraints.

Portions of this area which are adjacent to existing or future residential uses will be limited to light industrial or heavy commercial uses which will not adversely impact the neighboring residential uses.

WEST AREA INDUSTRIAL DISTRICT VISION

The City envisions this area developed in light industrial and heavy commercial uses. This development is intended to both provide jobs and revenue to Biggs and to buffer existing and future residential uses from the noise and dust related impacts of existing and future industrial uses and railroad activity.

The City supports the creation of a fourth road crossing of the Union Pacific Railroad tracks in the area south of town (see *Figure 2.2*). This southern crossing would improve access to industrial areas and would reduce heavy truck traffic within the City.

5. NORTH AREA INDUSTRIAL DISTRICT

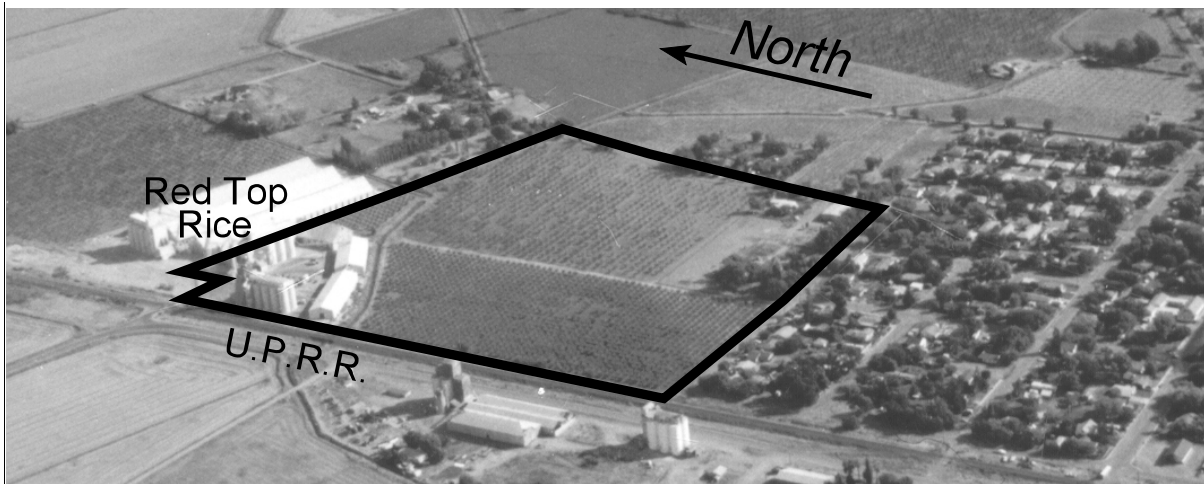


Figure 1.7 - North Area Industrial District

SETTING

The North Area Industrial District, located north of H Street, east of the UPRC tracks and west of Fourth Street, is dominated by the existing Red Top Rice Growers rice drying facility which has been active for more than forty years.

As with all development in the City, increases in surface runoff resulting from new development shall be retained in storm water detention facilities. Additionally, North Area Industrial District development shall contribute to improving existing drainage channels located within the area.

CONSTRAINTS

Major constraints in this area include noise and dust impacts of Red Top Rice Growers and the UPRC, and drainage issues related to the RD 833 Lateral K channels which provide flood control in areas north of Biggs.

NORTH AREA INDUSTRIAL DISTRICT VISION

The City envisions this area to be developed in industrial and heavy commercial uses which are not negatively affected by the noise and dust conditions of the area. Light industrial and heavy commercial uses would serve to buffer existing and future residential uses located to the south and east.

6. 99/WEST RIO BONITO

SPECIAL DISTRICT

Figure 1.8 - West Rio Bonito Special District

SETTING

The 99/Rio Bonito Special Planning District is located to the north and south of West Rio Bonito Road and to the west of State Route 99. This land is in agricultural uses with limited residential development.

Located along SR 99, this District serves as one of the primary gateways to Biggs and it is anticipated that this area will eventually be annexed to Biggs. Therefore, the City has an interest in ensuring that the form and character of development in this area is consistent with the City's long term vision.

Annexation of land within this District is not anticipated during the horizon of this General Plan. However, the City would not oppose development within this area as long as it is consistent with the long-term vision described in this section.

CONSTRAINTS

The primary constraint to development within this area is related to its distance from existing development and municipal services. While some development may occur prior to extension of services, full development as envisioned by the City will not occur until

services are extended and the area has been

annexed to the City.

99/West Rio Bonito Commercial District Vision

The City envisions this area developed in commercial uses that attract passing customers for State Route 99. The character of this area will be one of unique shopping opportunities which, ideally, highlight the local character and agricultural products of the region.

Typical highway commercial will be strongly discouraged within this area. Appropriate uses include shops selling local products and produce. The anchor use of this area will likely be the Bayles Farms lavender farm which produces herbs and distills essential oils. Other uses which the City considers appropriate for this area include specialty gardening and hardware shops, a restaurant capable of attracting patrons from surrounding communities, and small scale professional offices.

7. HAMILTON SLOUGH PARKWAY

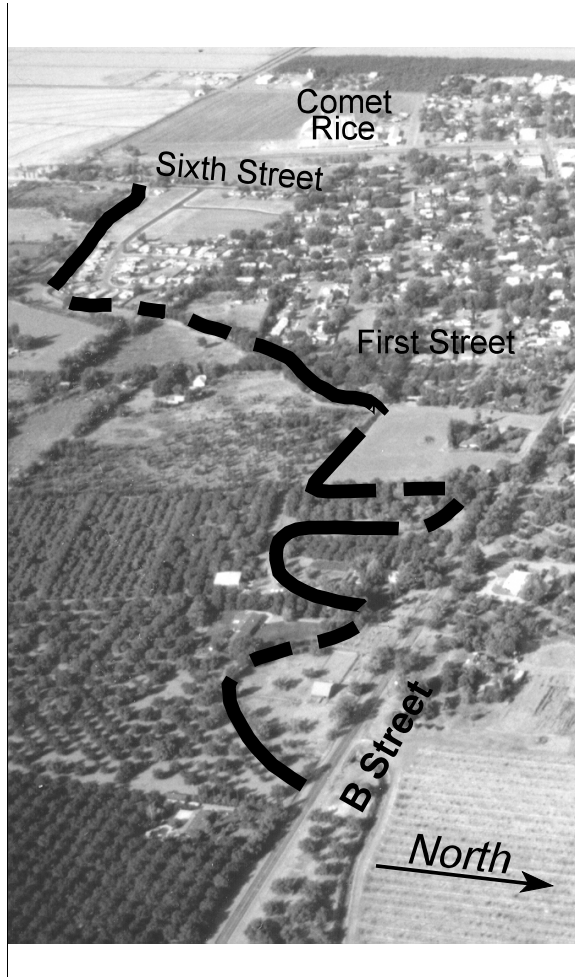


Figure 1.9 - Hamilton Slough Alignment between B Street and Sixth Street

The Hamilton Slough Parkway is a proposal under consideration by the City of Biggs. Program 5.2.1 of the Open Space and Conservation Element calls for preparation of a Hamilton Slough Parkway Plan. The area currently under consideration stretches from B Street on the east to Sixth Street on the southwest. However, no boundaries have been established and this proposal is still in its preliminary stages.

SETTING

Hamilton Slough approaches Biggs from the northeast, passes town to the south, and flows on toward southwest Butte County. This waterway serves irrigation and flood

control needs of Biggs and surrounding land owners.

CONSTRAINTS

Constraints to development along Hamilton Slough are of two primary types: conditions which restrict urban development potential and conditions which restrict development of the proposed Parkway.

Urban development constraints include flooding potential related to the channel as well as concerns of increasing overall downstream flows during storm events. The existing vegetation, particularly in the vicinity of the Slough and First Street is the most significant wildlife habitat remaining in the Biggs planning area and will merit special consideration to avoid loss of wildlife resources.

Constraints to development of the Parkway itself are primarily economic. Expansion of the Slough corridor will be required to accommodate Parkway uses. This land is currently in private ownership and acquisition costs may be significant. Additionally, the Slough is under the authority of Reclamation District 833 and coordination with this agency will be required before initiating new uses along the Slough corridor.

HAMILTON SLOUGH PARKWAY VISION

The initial proposal under consideration by the City is to create a publicly accessible trail that would follow Hamilton Slough from B Street, east of the Biggs Elementary School, to the crossing of the Slough at Sixth Street.

Uses along the Slough would be passive in nature, with a walking/jogging trail passing through an oak woodland and agricultural land setting. Ultimately, uses might be expanded to include a City owned/leased agricultural demonstration site that highlights production and processing of local agricultural goods.

1.4 ECONOMIC DEVELOPMENT



Comet Rice facility within Biggs

Among the most pressing concerns for the City of Biggs is the loss of commercial businesses and industrial jobs within the community. The B Street corridor has been in a slow but steady state of decline for more than ten years. Regionally, processing of agricultural crops is shifting to southern portions of the central valley, attracted by longer growing seasons, access to major highways, and larger worker populations.

Combined with the overall tightening of funding that began with Proposition 13 and became extreme with the State's economic recession of the early 1990's, it has become imperative for local jurisdictions to support and encourage economic development that provides local jobs and public revenues.

GOALS, POLICIES, AND PROGRAMS

GOAL 1.4

Promote economic growth within the City of Biggs to ensure employment opportunities and goods and services are available within the community.

POLICY 1.4.A

Promote renewal and retention of the central business district.

POLICY 1.4.B

Encourage professional office uses in the central business district.

POLICY 1.4.C

Minimize or mitigate conflicts between various land uses that could result in businesses leaving the community.

POLICY 1.4.D

Encourage land uses that do not harm the environment or pose safety hazards to city residents.

POLICY 1.4.E

Actively pursue and promote employment generating uses which are compatible with the overall environment of Biggs.

PROGRAM 1.4.1

Prepare a Business Retention and Attraction Plan which:

- Defines incentives the City shall consider to attract desirable businesses to Biggs
- Identifies staff assignments and responsibilities for attracting new businesses
- Identifies the specific types of businesses which Biggs shall seek to attract
- Defines projects which would be appropriate for funding through grant monies

PROGRAM 1.4.2

Pursue State and Federal grant funds for activities and infrastructure improvements which will promote economic growth.

PROGRAM 1.4.3

Coordinate economic development efforts with agencies and organizations promoting economic development in southern Butte County.

HISTORY OF BIGGS' ECONOMIC ACTIVITIES

Since the early days of Biggs' history, agriculture has been the cornerstone of the local economy. While types of crops, patterns of land ownership and production methods have changed over the past 100 years, agriculture continues to be the basis

for much of the economic activity in Biggs and throughout southwest Butte County.

The long relationship between Biggs and agriculture has become less reliable in recent years. Increasing mechanization and consolidation of farms has reduced the number of workers required per acre of farm land. Also, consolidation and relocation of processing plants has reduced the number of jobs available in the Biggs vicinity.

Closure or reduction of operations at mills in and around Biggs has produced far reaching effects in the local economy of the City. In fact, reduced milling activities may be the single greatest factor in the decline of local businesses which has occurred in Biggs over the past ten years.

While agriculture no longer meets all the employment needs of the community, it remains an important aspect of the local economy. This is particularly true of the Comet Rice and Red Top Rice mills. It is clearly in the best interests of Biggs to support the on-going viability of these businesses. The primary means for the City to support these businesses is avoidance of locating noise and dust sensitive uses near the mills.

Given that employment in agricultural operations has been in decline in recent years, it will be necessary for Biggs to attract alternative employment generating uses. Creation of new jobs will be critical to ensuring employment for community members, generating revenues to support the City and creating an atmosphere which will support local businesses.

TYPES OF BUSINESSES TO TARGET

Currently, the City of Biggs is strongly dominated by residential land uses. The challenge the City now faces is two-fold. First, new businesses are needed that can provide employment for community members. Second, new stores and services

are needed to provide for the needs of local community members.

NEW EMPLOYMENT

Ideally, new jobs would be semi-skilled and would provide greater than minimum wage incomes levels.

While securing a single large employer within Biggs would be highly beneficial to the community, it is more prudent to plan to attract numerous smaller businesses. Targeting smaller businesses increases the pool of potential new employers to be attracted to Biggs. Additionally, an economy of numerous small businesses is more stable than one which relies on one or two major businesses, since closure or relocation of a single large business could have major economic impacts on the local economy.

One local business that characterizes a desirable employment generating land use is the Country Pine Furniture Co. This local business is small in scale, provides approximately 15 semi-skilled jobs, and is compatible with the surrounding community.

Ideally, Biggs will develop a variety of small-scale "cottage industries" which will not only provide jobs, but will also contribute to the identity of Biggs and the character of its residents.

COMMERCIAL/SERVICE OPPORTUNITIES

The second major issue in identifying desirable businesses is how to serve the needs of community members. Currently, major gaps exist between the needs of the community and the available goods and services in Biggs. The result is that residents shop outside of the community, causing local businesses and the City to lose important revenue.

Since the City's 1,650 residents are simply too few to support many types of businesses, Biggs should promote uses

which attract customers from surrounding areas and from SR 99. Attraction of customers will occur only if there is a unique opportunity in Biggs. Therefore, business attraction efforts of the City should focus on commercial businesses which represent unique opportunities for shoppers in the region.

MARKETING OF THE COMMUNITY

The structure of local agency revenues has led to the competition for revenue and employment generating uses. Many cities and counties now actively market the advantages which they offer for businesses seeking new facilities.

A major consideration of a business in selecting a new site is the quality of life in the communities under consideration. This is an area in which Biggs is highly competitive. The small town character, affordable housing costs, low crime rate and high quality schools are all important to the desirability of a community. Such qualities should be highlighted to prospective new businesses.

Given that marketing efforts require staff time and on-going attention for success, it is appropriate for Biggs to seek partnerships with local jurisdictions and economic development organizations and to work together to promote business within southern Butte County.

SITES FOR NEW BUSINESSES

Businesses seeking new facilities generally require a site within a specific time frame. In some cases the site would entail a finished structure requiring little more than remodeling. Other businesses will seek vacant land with available services on which to build a new facility.

Availability and condition of potential sites within the community is crucial information to a business which is considering a new

facility or location. The City shall seek to clearly identify potential new business sites within the community.

INCENTIVES FOR NEW BUSINESSES

Competition for attracting new revenue and employment generating uses has led many communities to offer incentives to potential new businesses. In some cases these incentive packages represent a value of many thousands of dollars per potential new job.

The types of incentives which Biggs may offer to prospective new businesses should be tailored to the nature of the business and the level of interest on the part of the City. Possible incentives include:

- Adjustments on fees collected by the City for water and sewer service connections
- Preferred rates on public services, particularly electrical service
- Expedited processing of applications for land use review and approval

Specific incentives to be offered to prospective businesses will be refined further following completion of the General Plan.

2. CIRCULATION



Tree lined road and sidewalks of B Street

- Introduction
- 2.1 Roadway Network
- 2.2 Road Improvement Standards and Guidelines
- 2.3 Road Maintenance
- 2.4 Pedestrian and Bicycle Circulation
- 2.5 Railroad
- 2.6 Public Transit

INTRODUCTION

LEGAL BASIS AND REQUIREMENTS

The legal requirements of the general plan circulation element are defined within Government Code Section 65302(b) as follows:

"[The general plan shall include] a circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other public utilities and facilities. all

correlated with the land use element of the plan."

Within the Biggs general plan, the Circulation Element is coordinated and consistent with the Land Use, Community Enhancement, Public Services and Facilities, and Safety Elements which address topics directly related to circulation and transportation.

The Circulation Element provides a framework to guide transportation planning throughout the City of Biggs and its sphere of influence. Goals, policies and programs provide direction for maintaining and improving Biggs' transportation systems. In addition, this element assesses the current circulation conditions in the area and analyzes improvements to support new development anticipated within the Land Use Element of the general plan.

OVERVIEW

Future residential development is an important consideration in circulation planning. The location and number of new homes is a primary factor in determining circulation system needs and plays a major role in determining future traffic levels.

REGIONAL SETTING

The City is located in southwest Butte County about twenty-five miles south of Chico and fifteen miles southwest of Oroville. It is also about twenty-five miles north of Yuba City. The circulation\transportation system is typical of a rural town with the exception that Biggs is offset from the state highway by about one mile.

The City has no state highways within its jurisdiction. Rather, arterial streets and rural highways serve to connect Biggs to regional highways, neighboring communities and surrounding rural lands. B Street is the most heavily used arterial for entering and leaving Biggs and connects downtown Biggs to Highway 99. West Rio Bonito Road provides

a secondary connection between Biggs and Highway 99, entering the northeast portion of town and becoming E Street within the City limits. West Biggs Gridley Road connects to the western terminus of B Street and serves as a local route between the communities of Biggs and Gridley. Afton Road, which enters the northwest portion of Biggs and becomes Eighth Street, provides rural routes between Biggs and the communities of Richvale, Afton and Chico. Finally Sixth Street enters the southern portion of Biggs and provides access to rural lands immediately south of town.

LOCAL SETTING

The primary entrance to Biggs, B Street is generous in proportion and has landscaped strips separating road from sidewalk. Curbs are vertical and shade trees form an inviting canopy. These attributes contribute to an overall character which many members of the community enjoy.

The historic City street system is a rectangular grid pattern bisected by and aligned with the Union Pacific Railroad. However, the grid pattern has not been maintained in newer parts of town. As a result, the historic grid pattern with through-streets has been compromised at the City limits. Streets such as Mary L Court and the north end of Third Street now end in Cul-de-sacs. On the southern boundary of Biggs, Second, Third, and Fifth Streets terminate in compound curves which respond to property lines and a drainage/irrigation channel rather than the historic grid pattern.

2.1 ROADWAY NETWORK



Figure 2.1 - 1997 Existing Street Pattern

As stated earlier, the City has no state highways within its jurisdiction. Arterial streets within Biggs connect to County roads which provide access to other communities. Primary arterial streets are as follows:

- B Street passes through the center of Biggs and intersects with Highway 99 on the east and West Biggs Gridley Road on the west.
- E Street is designated as a truck route and extends from West Rio Bonito Road on the east to past Eighth Street on the west.
- Sixth Street provides a generally north/south corridor through town, leads to Dakota and Chatfield Avenues to the south of town, and serves as a local route to SR 99.
- Eighth Street runs parallel to and west of the railroad tracks and connects to Afton Road to the northwest of town.

Locations and designations of City streets are shown on *Figure 2.2 - Circulation Diagram*.

GOALS, POLICIES, AND PROGRAMS

GOAL 2.1

Plan and develop roadways in an orderly and visually attractive manner which enhances the community and provides for the movement of people and goods within the City of Biggs.

POLICY 2.1.A

Pedestrian and bicycle routes shall be designated and improved within Biggs to allow for safe and convenient non-vehicular circulation.

POLICY 2.1.B

Arterial Streets shall be improved with vertical curbs, sidewalks and a minimum four (4) foot wide landscape strip between the back of street curb and the edge of the sidewalk.

POLICY 2.1.C

Cul-de-sacs, dead-end streets and curvilinear streets shall be allowed only when absolutely necessary due to physical constraints such as existing structures or major drainage channels.

POLICY 2.1.D

Local Streets shall, to the maximum extent feasible, maintain the grid pattern of central Biggs.

POLICY 2.1.E

Roadways within new development projects shall be designed to allow for the extension of roads in a grid pattern to adjacent future development projects.

POLICY 2.1.F

Regional circulation planning shall be coordinated with the Butte County Association of Governments (BCAG) and the California Department of Transportation (Caltrans).

POLICY 2.1.G

Functional performance of roadways throughout the community shall be maintained at a Level of Service C or better and shall conform with the Roadway Environmental Capacity as defined in *Table 2.3* of this Element.

PROGRAM 2.1.1

Adopt and apply design standards for all classifications of roadways within the community. Review as appropriate street sections to ensure that scale of roads is appropriate and to facilitate construction of curb and sidewalk improvements within existing development.

PROGRAM 2.1.2

Prepare a Roadway Master Plan to:

- 1) Identify future road improvement projects
- 2) Evaluate the condition of community roadways
- 3) Identify required repair and maintenance projects
- 4) Establish costs for proposed improvements
- 5) Prioritize and schedule projects for a ten year project horizon

PROGRAM 2.1.3

Within the Roadway Master Plan, investigate and resolve discrepancies between designated road ROW's, road ROW's as depicted on Assessor's Parcel Maps, and actual available ROW's as defined by street improvements and improvements on private properties adjacent to roadways.

PROGRAM 2.1.4

Within the Roadway Master Plan, identify specific alignments for curb and sidewalk improvements along existing street based upon the findings of Program 2.1.3.

PROGRAM 2.1.5

Within the Roadway Master Plan, investigate existing facilities and roadways which are unable to accommodate typical capacity, including constraints on Second Street near of Bannock, the Sixth Street bridge, and the intersection of Sixth Street and Dakota Avenue. Develop alternative solutions for existing roads which create traffic constraints.

PROGRAM 2.1.6

Prepare a Roadway Improvements Financing Plan which identifies funding sources for various types of circulation improvements.

PROGRAM 2.1.7

Periodically review traffic volumes to ensure that adequate levels of service are maintained.

ROAD STANDARDS AND CLASSIFICATIONS

The City of Biggs is served by four differing types of roadways, as defined by the 1994 Highway Capacity Manual. While typical speed limits are given for the following descriptions of roads, as of 1997, all streets within the City of Biggs had speed limits of 25 miles per hour. Speeds noted in the following descriptions should not be exceeded on future roads within the City. Roads within and serving the City of Biggs may be divided into the following designations:

LOCAL

Residential Local streets provide direct access to adjacent properties and are not intended to serve through traffic. Local streets provide access to Collector streets and carry low traffic volumes at low speeds, typically less than 25 m.p.h. Right of Way requirement for Local Streets is 60 feet in

width, with 44 feet of paved surface width between curbs.

COLLECTOR

Collector streets provide a linkage between Local streets and Arterial streets. Collector streets serve a variety of functions, providing access to individual properties and allowing movement to and from Local streets. Collectors carry light to moderate traffic volumes at speeds between 25 m.p.h. and 35 m.p.h. Right of Way requirement for Collector streets is 70 feet in width, with paved surface between curbs 54 feet in width. Collector streets should provide bicycle lanes.

ARTERIAL

Arterial streets provide the major travel corridors through Biggs, linking Collector streets with regional roadways. Arterials connect with both Residential Local and Collector streets. Arterial streets within the City of Biggs also provide access to some properties. Arterials carry the greatest traffic volumes. Speed limits may range from 25 m.p.h. to 35 m.p.h. Right of Way requirement for Arterials is 80 feet in width, with a paved surface of 60 feet in width between curbs.

RURAL HIGHWAY

Rural highways are generally higher speed, medium capacity two-lane roadways with one lane for travel in each direction. Passing of slower vehicles requires the use of the opposing lane where traffic gaps allow. Speed limits range from 35 m.p.h. to 65 m.p.h. The only Rural Highway in the Biggs Planning Area is Highway 99 which serves as the main connection from Biggs to Chico, Gridley, Yuba City/Marysville, and eventually Interstate 5, in both directions.

Roadway classifications are noted in Table 2.2 and graphically depicted on Figure 2.2.

B Street	Second St.
E Street	Fourth St.
Eighth St.	Sixth St.
West Biggs Gridley Rd	Trent St.
Rio Bonito Rd.	

All streets not listed in Table 2.1 are designated as Local

FUTURE ROAD LAYOUT

The City recognizes numerous benefits of the historic grid system of streets at the center of Biggs. Unfortunately, the grid has not been extended as development has occurred in recent years. *Figure 2.3 - Conceptual Street Layout* depicts the general form expected as new development occurs. While the alignments depicted in *Figure 2.3* may be modified as development occurs, each project shall be required to conform to the grid concept of street layout and must make provisions for the extension of the grid to future development projects.

TABLE 2.1 ROADWAY CLASSIFICATIONS ¹	
ARTERIAL	COLLECTOR

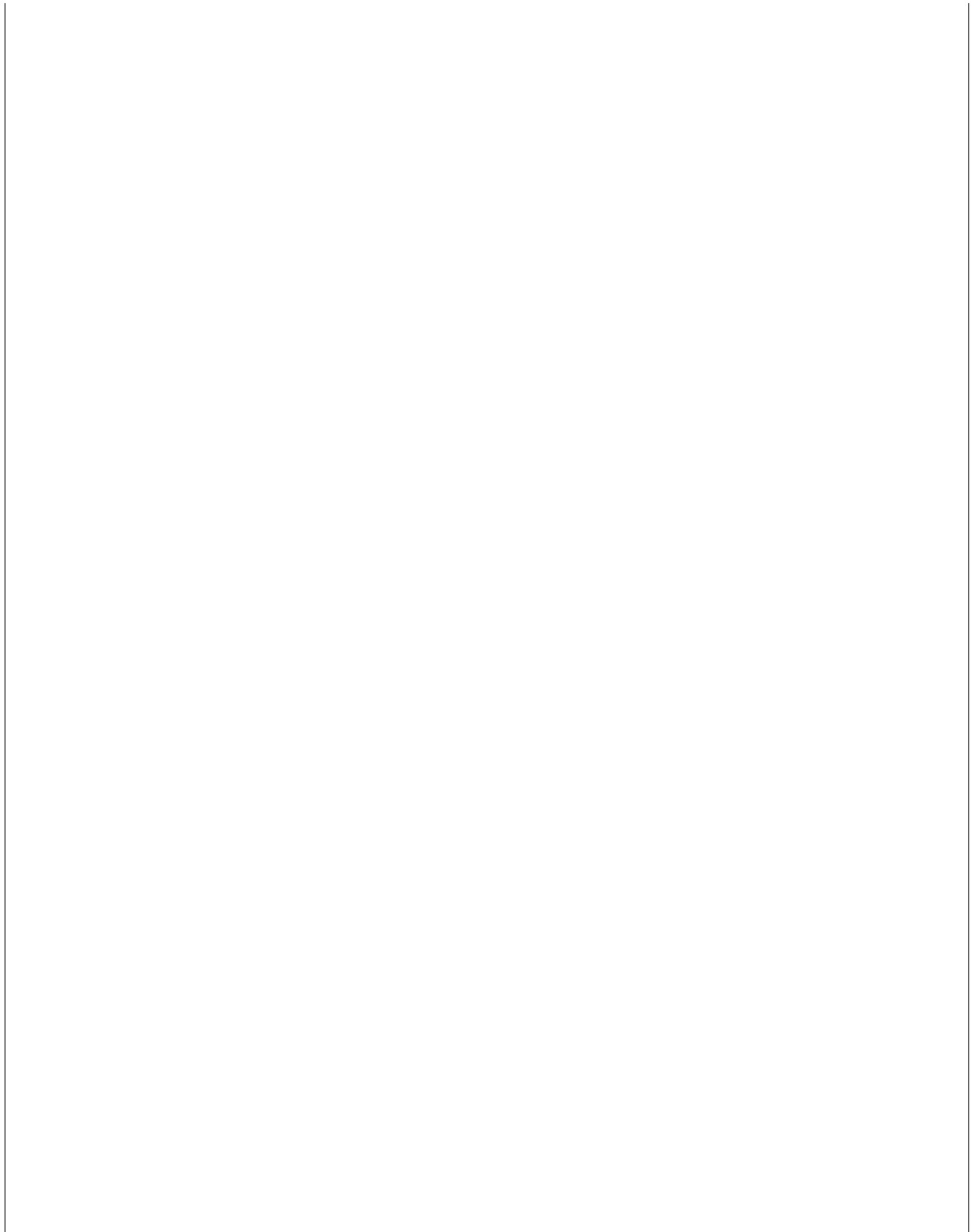


FIGURE 2.2
CIRCULATION DIAGRAM

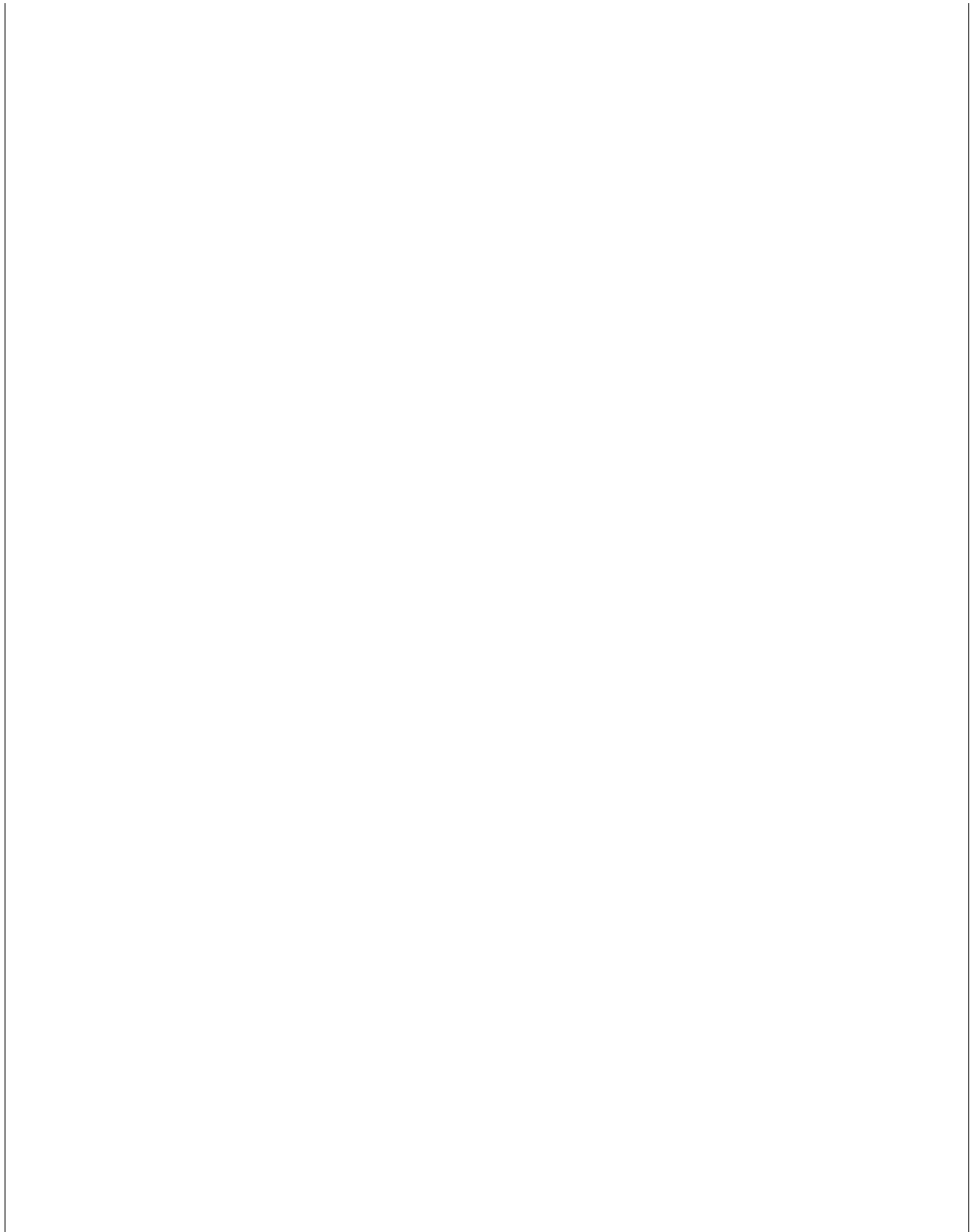


FIGURE 2.3
CONCEPTUAL STREET LAYOUT

LEVEL OF SERVICE (LOS)

The Level of Service (LOS) is a measure of traffic service along a road or at an intersection. LOS ratings range from A through F, with LOS A, B and C indicating traffic can move relatively freely. LOS D describes conditions where delay is more noticeable and average traffic speeds are low. LOS E indicates significant delays and average speeds of one-third the free flow speed or lower. LOS F is characterized by traffic flows at very low speeds (stop and go) and long delays (more than one minute). *Table 2.2* provides detailed descriptions of LOS categories.

In addition to traffic volume, level of service may be affected by a variety of "friction" factors. These may include large amounts of on-street parking, driveways or access points to the roadway, truck volumes, pedestrian activity, lack of left turn lanes, traffic signals, and low driver familiarity with the area. Presence of these factors may significantly reduce LOS below the vehicle volume to capacity ratio. Friction factors are significant along B Street in downtown Biggs where on-street parking and a large volume of trucks at rice harvest time can adversely affect traffic flow.

TABLE 2.2 LEVEL OF SERVICE DEFINITIONS	
LOS	Description
A	Represents free flow. Excellent level of comfort, convenience and freedom to maneuver.
B	Stable flow, but the presence of other road users in the traffic stream causes noticeable reductions of comfort, convenience, and freedom to maneuver.
C	Stable flow, but marks the beginning of the range of flow in which operation of individual users becomes significantly affected by interactions with others in the traffic stream.
D	Represents high density, but stable flow. Users experience severe restriction in speed and freedom to maneuver, with reduced levels of comfort and convenience.
E	Represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver is difficult, with users experiencing frustration and poor comfort and convenience. Unstable operations are frequent, where small increases or minor perturbations to the traffic flow can cause breakdown conditions.
F	Represents forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the volume that can traverse that point. Roadways store long queues behind such locations, with traffic advancing in stop and go "waves".

Source: Highway Capacity Manual (Special Report 209, Transportation Research Board, 1994).

ENVIRONMENTAL CAPACITY

The LOS categories classify traffic flows based upon what a driver experiences. However, for purposes of evaluating proposed development projects, it is necessary to identify the number of vehicle trips per day which correspond to the various LOS categories.

The engineered capacity of a two-lane road is approximately 11,000 vehicle trips per day. However, within residential areas complaints over traffic levels become common at much lower traffic levels.

The "Environmental Capacity" (EC) of roads within the City of Biggs has been established to provide quantitative measures of impacts to traffic resulting from urban development. The EC levels identified in *Table 2.3* are intended to maintain traffic levels within the City of Biggs at LOS C or better.

TABLE 2.3 - ROADWAY ENVIRONMENTAL CAPACITY GUIDELINES	
Road Class	Acceptable ADT
Local	1,500 ADT
Collector	2,500 ADT
Arterial	5,000 ADT

TRANSPORTATION MODELING

Existing traffic volumes were measured in December 1996 at 18 key roadways and four intersections throughout the City.

BUTTE COUNTY MINUTP

The Butte County Association of Governments (BCAG) is the local Metropolitan Planning Organization and its responsibilities include the planning, coordination, and implementation of transportation projects and programs within the County. Transportation planning decisions are aided by the use of the Mini Urbanized Transportation Program (MINUTP)

Transportation Modeling.

The MINUTP was updated in 1997 and considerable detail was added to the model in the vicinity of Biggs to support analysis of transportation impacts which would result from new development within the City.

The Butte County MINUTP provides a current and accurate transportation planning model and is an important resource for evaluating transportation impacts associated with development projects.

MINUTP RESULTS

Full build-out of this general plan at year 2015 was analyzed with the MINUTP model. The amount of development considered by the modeling is described as the "short-term capacity" under *Table 1.4 - Development Capacity within Special Planning Districts* which is presented within the Land Use Element. The results of this analysis include projected Average Daily Trips for most road segments within the City of Biggs. The future traffic conditions predicted by the model include the current known traffic volumes and the anticipated increased traffic which will result from new development identified within the Land Use Element.

Table 2.4 - Existing and Future Traffic Levels notes the average traffic levels along entire streets. This analysis focused on portions of Biggs which could be adversely affected by new development proposed within this general plan. Based upon the findings of the traffic analysis, new development anticipated within the general plan will result in unacceptable traffic levels as defined within this Element.

TABLE 2.4 EXISTING AND FUTURE TRAFFIC LEVELS		
Road Segment	Current Traffic	Future Traffic ¹

B Street	2,171	2,763
E Street	1,125	1,354
Second St.	715	730
Fourth St.	445	712
Sixth St.	730	1,032
Eighth St.	1,497	1,690
Trent St.	303	349
W. Rio Bonito	1,075	1,226
B St. (East)	2,504	4,041
W. Biggs/ Gridley Rd.	2,019	2,575
Sixth St. (South)	902	1,367

¹ Future Traffic estimates assume build out of Short Term Development Potential as defined in Table 1.4 of the Land Use Element

TRUCK TRANSPORT

The main source of large truck traffic in the region is the transport of agricultural products. The City currently has two truck routes which pass through the central portion of Biggs: B Street and E Street. Truck traffic along either of these routes is somewhat problematic. B Street passes through the commercial center of Biggs and has head-in parking along both sides between Sixth Street and Eight Street. The combination of commercial activity, the current parking spaces and heavy truck traffic has not resulted in significant problems to date. However, as Biggs grows and traffic levels increase this situation may result in safety concerns.

E Street is undergoing expansion to provide bicycle and pedestrian facilities. While the road will be adequate in size to accommodate large truck traffic, the combination of bicycles and pedestrians (mainly school children) with the large trucks presents safety issues. Additionally,

E Street passes through residential neighborhoods that are less than compatible with heavy truck traffic.

While no new truck routes are anticipated in the near future, the City is interested in developing a truck route that would exit Biggs to the south and on the west side of the railroad tracks (see *Figure 1.2*). This alignment would require an additional crossing of the railroad tracks and would allow trucks to leave Biggs to the south without entering residential neighborhoods and then travel east to SR 99. It has been noted that most trucks that pass through Biggs to reach SR 99 will travel south once they reach the highway. A truck route exiting town and connecting to SR 99 south of Biggs would be attractive to such southbound traffic.

STATE ROUTE 70/99 CORRIDOR TRANSPORTATION PLANNING ACTIVITIES

The State Transportation Improvement Program (STIP) is a state transportation programming document that is adopted by the California Transportation Commission (CTC) every two years and identifies major state highway improvements to be funded within a seven year horizon.

The State Route 70/99 Corridor was initiated when 1988 STIP was adopted and the CTC asked the Butte County Association of Governments and the Sacramento Area Council of Governments to prepare a corridor study to determine the preferred route for a four-lane expressway, ultimately for conversion to freeway, between Sacramento to Chico.

The State Route 70/99 Corridor Study recommended that State Route (SR) 70 be improved as a four-lane expressway between Sacramento and Chico, with lesser improvements to State Route 99 between Yuba City and Sacramento. Due

to the preference for the SR 70 route and funding realities, major improvements to SR 99 north of Yuba City are not likely in the foreseeable future.

Designation of SR 70 as the future expressway between Sacramento and Chico will indirectly affect City of Biggs. Some portion of both local and through (including commercial trucks) traffic between Chico and Sacramento currently traveling SR 99 will be attracted to the SR 70 expressway. Therefore, traffic along SR 99 will increasingly be local, predominantly serving as a connection between Yuba City, Live Oak, Gridley, Biggs and Chico.

2.2 ROADWAY IMPROVEMENT STANDARDS



Road Construction along E Street

GOALS, POLICIES, AND PROGRAMS

GOAL 2.2

Ensure that circulation improvements are adequate to serve transportation demands of new development within Biggs.

POLICY 2.2.A

New development projects shall dedicate adequate rights-of-way to allow for construction of roadways as designated within this element.

POLICY 2.2.B

New development shall generally conform to the alignments depicted in *Figure 2.2 - Conceptual Street Layout*.

POLICY 2.2.C

New development shall pay appropriate fees, as established within a City Roadway Master Plan, to offset resulting circulation impacts.

POLICY 2.2.D

New development shall provide adequate off-street parking spaces to accommodate parking demands generated by the use.

POLICY 2.2.E

All new streets within the City of Biggs shall be constructed with curb, gutter and sidewalks. Sidewalks shall be separated from curb by a landscape strip a minimum of four (4) feet in width.

POLICY 2.2.F

New development shall provide off-site street improvements as needed to avoid creating significant traffic impacts on streets surrounding the proposed project. Traffic impacts are considered significant if they result in traffic which exceeds the "Environmental Capacity" of Average Daily Trips as defined below:

Local:	ADT greater than 1,500 ADT
Collector:	ADT greater than 2,500 ADT
Arterial:	ADT greater than 5,000 ADT

Where existing traffic levels exceed the criteria above, an increase of greater than 10% over existing levels is considered a significant impact.

PROGRAM 2.2.1

Incorporate improvement standards within the Roadway Master Plan, including:

1. Guidelines for phasing of road improvements.
2. Requirements for funding of off-site road improvements.

PROGRAM 2.2.2

Revise existing or adopt new zoning ordinances to clearly specify the number of on-site and off-site parking spaces required for residential, commercial and industrial land uses.

BACKGROUND

Development standards are necessary to ensure roadway improvements within existing and future development meet the various needs of the community. These standards provide for community character, sense of place and contribute to the functionality of the circulation system. General road layout, drainage facilities, sidewalks and parking provisions are important aspects of roadway design. Additionally, mechanisms are required to ensure that new development projects provide for required road improvements, both on-site and off-site

STREET LAYOUT

The City's traditional grid system allows for the through movement and good connection between neighborhoods. Figure 2.2 - Conceptual Street Layout depicts how the existing grid street pattern can be extended to new development.

Development plans which include loops and cul-de-sacs shall be discouraged since such alignments tend to create isolated neighborhoods and promote circuitous travel which results in traffic being distributed along fewer streets.

DRAINAGE IMPROVEMENTS

Many streets within the community lack adequate drainage systems (gutters). As a result, stormwater often accumulates along roadsides, forcing pedestrians to walk within traffic lanes. These conditions are more fully discussed in the Public Facilities element and shall be addressed within a City Drainage Master Plan.

PEDESTRIAN FACILITIES

As with the gutters, the sidewalk system is incomplete and results in concerns for pedestrian safety. Biggs school children have been observed walking to and from class on road street shoulders and in traffic lanes where sidewalks are lacking. These issues are discussed in detail with section 2.4 *Pedestrian and Bicycle Circulation*.

PARKING

Adequate vehicle parking is required to support existing and future development within the City. The placement and type of parking must accommodate the needs of businesses who view parking as a marketing tool; pedestrians who can view parking as a barrier when it blocks walking paths; motorists who want to park as close to their destination as possible; and, residents who desire both on and off street parking.

Within all types of land uses, on-site parking is required to provide for the majority of the parking demand created by the use. Specific parking requirements shall be adopted by City Ordinance as required by Program 2.2.2.

ROADWAY MASTER PLAN

Program 2.1.2 of this element calls for the preparation of a Roadway Master Plan. This Plan will support the Circulation Diagram and provide guidance on specific road improvements, a sequence for identified improvements and potential funding measures for improvement projects. As such, the Roadway Master Plan will be an important tool for realizing the goals and policies of the general plan and for creating a realistic and efficient program for future improvements.

2.3 ROADWAY MAINTENANCE



Waterline Installation within City Roadway

GOALS, POLICIES, AND PROGRAMS

GOAL 2.3

Accomplishment of on-going maintenance of roadways in an efficient and cost effective manner.

POLICY 2.3.A

The City shall establish a comprehensive and cost effective strategy for identification of road maintenance and improvement projects.

POLICY 2.3.B

Road maintenance and improvement projects shall generally be prioritized in the following manner:

1. Conditions which represent a safety hazard shall receive highest priority.
2. Conditions which, if not corrected, will result in increasingly costly repairs in the future shall receive secondary priority.
3. Conditions which result in nuisance or inconvenience shall receive third priority.

PROGRAM 2.3.1

Prepare a Pavement Management Plan, as described in this section, to be included within the Roadway Master Plan which:

1. Evaluates the condition of roads and road surfaces throughout the community.
2. Identifies specific road maintenance and improvement projects.
3. Establishes a prioritized and scheduled list of improvement projects.

PROGRAM 2.3.2

Initiate the evaluation of City road conditions by either:

1. Training a member of the City staff and directing that individual to conduct initial investigations of road conditions within the City; or,
2. Securing assistance with evaluation of the road system from qualified professionals on a contract basis.

BACKGROUND

Proper maintenance of streets is an important concern for the community and can avoid costly repairs in the future. The surface quality of roads within Biggs is not clearly documented. However, degradation of roads due to periodic flooding which undermines road grades, lack of regular maintenance to protect the quality of road surfaces and, in some instances, road beds constructed to less than optimal specifications all contribute to the breakdown of City roads.

The goal of a road maintenance program is to protect a community's investment in its road facilities and to ensure these facilities provide satisfactory and safe transportation. Road maintenance programs must consider a range of factors, including the effects of weather, vegetation, traffic wear, water damage, vandalism, material failures, and design and construction flaws. The general term "facilities" refers to road beds, road surfaces, shoulders, drainage facilities,

bridges, signs, lighting and traffic signals. Road maintenance programs must consider all of these facilities.

PAVEMENT MANAGEMENT PLAN

Maintaining paved road surfaces is a primary component of an overall road maintenance program. The use of a Pavement Management Plan (PMP) can ensure that scheduled maintenance and rehabilitation activities are structured to optimize benefits and minimize costs of maintenance activities. The PMP should identify all road facility projects which will require expenditure of funds in a given time period and should identify specific activities and costs for each project. Additionally, the PMP should establish a schedule for beginning and completing each of the proposed projects.

TYPE OF SYSTEM

Pavement Management Plans (PMP) can be developed on a project specific basis or on a network basis. The project basis analyzes a limited area of one or more roads. The limited scope of the project basis is less costly and requires less time to complete. The network basis considers the entire road system within a jurisdiction. It is recommended that Biggs pursue a Network Pavement Management Plan.

ROADWAY INVENTORY

Once the scope of the PMP is established, the next step is to conduct a visual inventory of local roads. Roadway pavement is graded qualitatively on surface characteristics. Locations requiring attention should be depicted on a City map and the individual locations should be rated for severity.

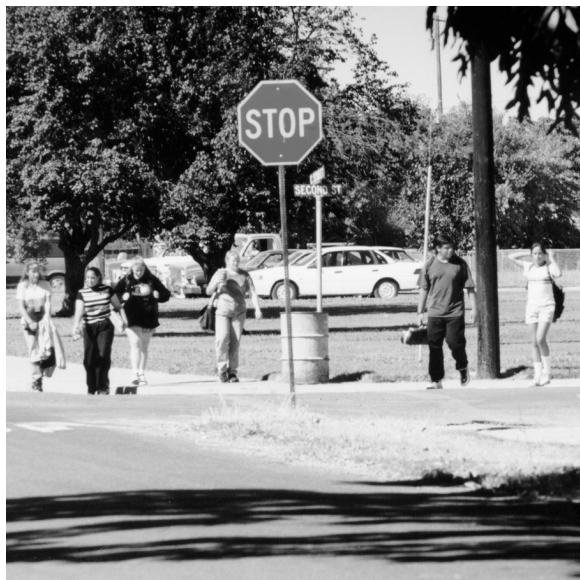
SPECIFIC METHODS OF MAINTENANCE AND REPAIR

Methods and techniques for road maintenance and repair shall be considered within the Pavement Management Plan of

the City Roadway Master Plan. Generally, these activities may be divided into preventative measures which avoid breakdown of facilities and corrective measures which repair minor to major failures of roads.

While preventative measures such as sealing road surfaces and maintaining proper drainage can be costly, such investments are much less expensive than repair of a failure of a road surface or sub-grade.

2.4 PEDESTRIAN AND BICYCLE CIRCULATION



Students leaving Biggs High School

The terrain and form of Biggs is favorable for bicycle and pedestrian circulation. However, road surfaces and the lack of sidewalks in portions of Biggs discourages pedestrians and bicyclists. This section identifies strategies for improving non-vehicular transportation in the community.

GOALS, POLICIES, AND PROGRAMS

GOAL 2.4

Provide safe, convenient and attractive routes for pedestrians and bicyclists of all ages throughout Biggs.

POLICY 2.4.A

The City shall actively pursue methods for developing a comprehensive bicycle route system within Biggs.

POLICY 2.4.B

The City shall identify locations which present hazards to pedestrians and actively pursue remedies to identified hazards.

POLICY 2.4.C

Pedestrian and bicycle improvements shall be prioritized in the following order.

1. Projects which increase safety for children traveling to and from school.
2. Projects which remove barriers to handicapped individuals.
3. Projects which increase overall convenience and safety for pedestrians and bicyclists.

PROGRAM 2.4.1

Conduct a survey of community members to identify areas where major impediments to pedestrian and bicycle circulation exist. This survey shall be supported by field investigations by City staff to define problems areas and develop optional solutions.

PROGRAM 2.4.2

Identify, prioritize and schedule improvements required to establish the pedestrian and bicycle routes designated on *Figure 2.3 - Pedestrian and Bicycle Routes* and incorporate projects within the Roadway Master Plan.

PROGRAM 2.4.3

Identify specific alignments for sidewalk improvements along designated pedestrian and bicycle routes within areas of existing development and include these proposed alignments within the Roadway Master Plan.

PROGRAM 2.4.4

Actively pursue grant funding to plan and construct pedestrian and bicycle route improvements.

BICYCLE CIRCULATION

Bicycle circulation in Biggs occurs throughout the road system. Specific bicycle routes and lanes have not previously been delineated within the City.

Improvements along E Street, anticipated for completion by 1998, will add bike lanes for children going to school. This bike lane and pedestrian walkway project has been funded through State Proposition 116 funds. The bike lanes will provide for five foot wide bikeways, which fall under the category of Class II, the same category utilized by Caltrans.

BICYCLE PATHWAY DESIGNATIONS

Class I bicycle pathways are fully separated from any traffic lanes, either in a setback landscaped corridor adjacent to the road, or in a totally separated corridor apart from the street.

Class II bicycle pathways are within the right-of-way of streets, usually collectors and arterials. The lanes are up to seven feet wide, located adjacent to the travel lanes with signage and a stripe on the pavement demarking the lane.

Class III bicycle pathways are shared usage of streets with no specific separation of different modes of traffic. Street signage is often used to designate a roadway as a bicycle route.

REGIONAL CONNECTIONS

As of 1997, regional bicycle connections in and around the City of Biggs were poorly developed. While the local terrain would be conducive to bicyclists, County roads have not been developed with adequate shoulders to safely accommodate bicycles.

While this situation will likely remain for the foreseeable future, the City of Biggs supports the development of safe bicycle routes, particularly between Biggs and the

City of Gridley.

The most likely means for developing bicycle routes will be inclusion of bike lanes whenever a road is constructed or modified. A preferred route location is West Biggs Gridley Road. However, no specific improvement plans are currently under consideration.

PEDESTRIAN CIRCULATION

Pedestrian facilities are also rather limited within the City. Past developments were not always required to install sidewalks, leaving many portions of the town with only the road for pedestrians. This situation is complicated during periods of rainfall when water accumulates along the sides of roads and forces pedestrians, primarily children walking to school, to use the traffic lanes for walking.

STUDENT CIRCULATION

Students going to and from the schools in Biggs have been observed utilizing B Street, C Street, D Street and E Street. Other than B Street, all of the streets mentioned above are lacking sidewalks in many areas. A typical student's walk to school is one of inconsistency, sidewalk to road shoulder to sidewalk again.

Elementary school students are let out at about 2:00 P.M., walk away from the school on Second Street, and fan outward on B Street, C Street, D Street and E Street. Most of the elementary students walk in small groups and utilize Second Street to navigate to the streets mentioned above. Students walk on both sides of B Street, with the majority of students on B Street walking on the north side of the road. Most students walk on the side of the road, whether or not there is sidewalk.

Kindergarten students are let out at noon and 3:00 P.M. The majority of these

students are picked up by parents or guardians in automobiles.

Middle school students (7th and 8th grades) are let out at about 3:00 P.M. These students utilize the same pattern as the elementary students, fanning outward from Second Street. Most of the middle school students walking on C Street and D Street do not walk on the sides of the streets, choosing instead to use road travel lanes. The students do, however, stay on the sidewalk of B Street and E Street, away from automobile traffic.

The high school lets out at about 3:00 P.M. Again the same pattern, fanning outward onto B Street, C Street, D Street and E Street, repeats itself.

Field observations of the flow pedestrians within Biggs has guided the designation of pedestrian and bicycle routes. Selected routes are depicted on *Figure 2.3*. Based on the observations made, improvement of the sidewalks on Second Street, C Street, D Street, and E Street should take precedence when investing in Biggs' sidewalk system.

DOWNTOWN PEDESTRIAN SERVICE

The central business district, located on both sides of B Street, is served with a spacious, connected sidewalk. The central business district "peak hours" are between 3 P.M. and 6 P.M. Pedestrians are mainly comprised of students and afterwork shoppers, at the local grocery mart.

Figure 2.3 - Pedestrian and Bicycle Routes, designates bicycle routes within the City which would provide the greatest benefits to bicyclists and pedestrians.

SIDEWALK IMPROVEMENT PROGRAMS

The City of Biggs has established

requirements for all new construction projects to install curb, gutter and sidewalks along all street frontage. Installation of the improvements is problematic in parts of Biggs for various reasons.

Historically, the City established broad rights-of-way for public streets. Often rights of way extend twenty feet beyond the edge of street pavement. Over time some property owners have constructed fences and installed landscape within the public right-of-way. Additionally, in past years the City has abandoned a portion of the right-of-way of some streets, reducing the width of the right-of-way from 80 feet to 60 feet. Finally, segments of sidewalk exist along many streets and these segments sometimes are not properly aligned with each other.

Because of the encroachments on rights-of-way, the varying width of rights-of-way, and the existing sidewalk segments, it will be challenging to properly locate sidewalks within existing neighborhoods. It will be necessary to study the selected pedestrian and bicycle routes, evaluate conditions and rights-of-way, and identify alignments for future sidewalk improvements.

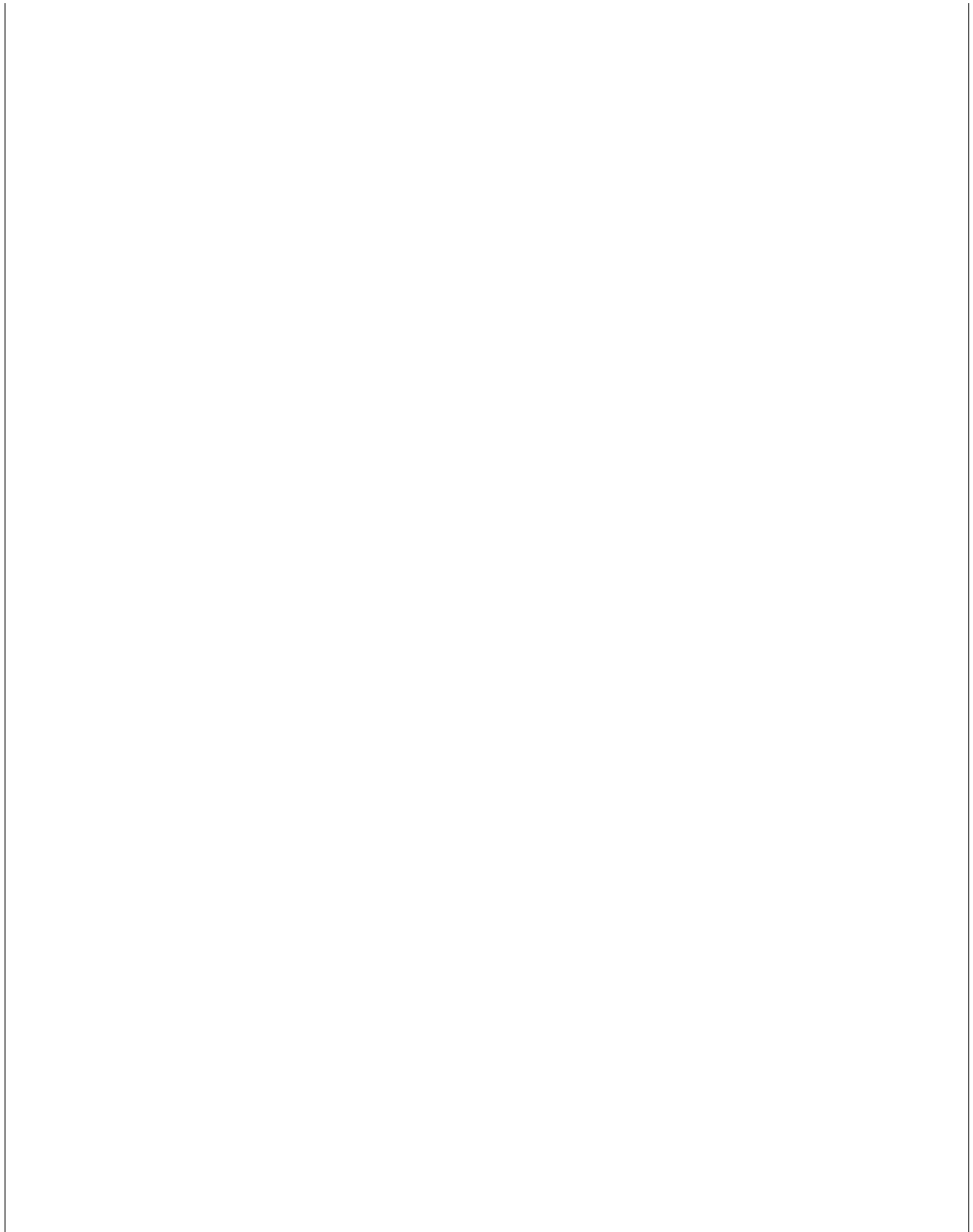


FIGURE 2.4
PEDESTRIAN AND BICYCLE ROUTES

2.5 RAILROAD



Train Passing Through Biggs

The City of Biggs is bisected by the Union Pacific Railroad Company tracks. Historically, this railroad corridor provided an important link for both passengers and goods within Biggs. However, since local and regional transportation of people and goods has shifted to automobiles and trucks, the train primarily serves interstate travel and transportation needs. The single exception is the Comet Rice mill which still loads goods for train transport within Biggs.

Due to this shift the railroad is primarily a liability to Biggs and provides little benefit to the community. This section seeks to minimize the inherent conflicts between the urban uses of Biggs and the visual, noise and vibration impacts which result from trains.

GOALS, POLICIES, AND PROGRAMS

GOAL 2.5

Minimize the impacts of the Union Pacific Railroad Company tracks on the City and its residents.

POLICY 2.5.A

Avoid locating land uses adjacent to the railroad tracks which will be sensitive to noise, vibration and/or hazards presented by train activity.

PROGRAM 2.5.1

Pursue methods of visually screening the train corridor with vegetative barriers.

PROGRAM 2.5.2

Investigate opportunities for construction of a new railroad crossing to the south of Biggs to accommodate a truck route leading from the southwest portion of Biggs to SR 99.

OVERVIEW

A major rail service line passes through the western portion of Biggs between Seventh and Eighth Streets. Service on this line is almost completely freight in nature. Trains pass through the City of Biggs at all hours of the day and night at speeds of 40 to 50 miles per hour. Due to the recent merger of Southern Pacific Railroad and Union Pacific Railroad Company, it is anticipated that rail activity will increase in the future. *Figure 7.3* of the Noise Element depicts the area affected by train noise and the Noise Element provides guidelines to mitigate impacts.

FREIGHT SERVICE

Local freight service consists of the shipment of rice from the Comet Rice Company to the Roseville Auction Yards. On average, twice per week, northbound trains stop in Biggs to drop off empty rice containers, and southbound trains pick up the full containers.

While Comet Rice is the only local business

currently utilizing the rail line, such access may prove beneficial in attracting new businesses to Biggs. The southwest portion of Biggs is designated for industrial uses and is in proximity to rail spur facilities for loading and unloading.

PASSENGER SERVICE

Activity on this rail line consists of primarily freight service, with minor Amtrak passenger service. The nearest passenger service depots are in Chico and Sacramento. Lack of a nearby passenger service depot significantly limits the value of rail service as a transportation option for Biggs residents traveling within the region.

INTERRUPTION OF CIRCULATION

An additional concern regarding the railroad tracks is the inability to cross the tracks as trains are passing. Biggs has three at-grade rail crossings and all three are unavailable as trains pass. When a train is passing, residents west of the tracks are temporarily isolated from emergency services such as fire protection, ambulance service and possibly police protection.

This concern is minimal unless the train stops in Biggs, which happens infrequently. In such instances, the tracks are impassible for as long as twenty. In emergency situations such a delay could result in dire consequences.

FUTURE ROAD CROSSINGS

The City of Biggs will pursue opportunities to create an additional railroad crossing to the south of the City limits. Such a crossing would provide improved access to the West Area Industrial District and would reduce heavy truck traffic along B Street and E Street. Additionally, a fourth crossing would reduce the potential for a stopped train to block all rail crossings within the City.

2.6 PUBLIC TRANSIT



Public Transit Serving the City of Biggs

Public transit within Biggs specifically, and southern Butte County generally, is limited by small populations and low ridership levels. While the City will pursue opportunities to improve the level of service of public transit within the community, it will be difficult to significantly improve this situation in the near future.

GOALS, POLICIES AND PROGRAMS

GOAL 2.6

Improve the availability and convenience of public transit within Biggs.

POLICY 2.6.A

The City encourages the use of public transportation and shall promote the expansion of such services within the community.

Program 2.6.1

Maintain a dialogue with Butte County Transit, Butte College and neighboring communities to explore options for increasing public transit services.

PUBLIC TRANSIT SERVICES

Butte County Transit provides public transportation to Biggs residents. Service is provided through a bus route which leaves Biggs at 8:53 a.m., 11:58 a.m. and 3:57 p.m. After leaving Biggs, buses travel first to Gridley and then to Oroville. Additional destinations may be reached from the City of Oroville.

As of 1997, service is provided on a per trip basis for \$.70 general and \$.45 senior and disabled rates. Monthly passes for unlimited ridership are also available.

Routes serving Biggs and Gridley are limited to the three trips noted above. This service provides for the needs of individuals requiring transportation during mid-morning and early afternoon. However, transit for full-time employees is not adequately provided due to the mid-morning departure and the mid-afternoon return times. Unfortunately, 1997 ridership in the Biggs/Gridley area is not sufficient to support additional transit services.

BUTTE COLLEGE TRANSIT SERVICES

A portion of the student fees of students attending Butte College is used to support bus service from outlying communities to the Butte College Campus located northwest of Oroville. While this service is not currently available to non-students, the potential for opening this service to community members should be explored.

3. COMMUNITY ENHANCEMENT



Tree Canopy Along B Street

- Introduction
- 3.1 Community Character
- 3.2 Community Design Guidelines
- 3.3 Historic Preservation
- 3.4 Recreation
- 3.5 Community Services

INTRODUCTION

LEGAL BASIS AND REQUIREMENTS

While the Community Enhancement Element is not a required element, State Law (Government Code Section 65303) allows other elements to be included within the General Plan that will promote the well planned growth of the designated area.

“The general plan may include any other elements or address any other subjects which, in the judgment of the legislative body, relate to the physical development of the county or city.”

This element is intended to maintain and enhance the community's existing character, preserve cultural and historical resources, and provide cultural, social, and recreational services, all of which make Biggs a desirable place to live.

OVERVIEW

The City of Biggs has reached a critical point in its development. Under this General Plan, the City will celebrate its centennial as an incorporated city. During the past one hundred years the city has grown from an agricultural transportation hub into a rural residential and farming community. Much of the City's historic character can still be seen in the existing City form. The evolution and development of Biggs has produced characteristics that define the community.

This element suggests ways to preserve the characteristics that have made Biggs a quality place to live. Preserving these qualities will provide a link with the past and preserve what is important for the future.

This element is comprised of five sections. Each section is designed to maintain and enhance the desirable characteristics of Biggs. *Community Character* addresses the positive physical appearance of the community. *Community Design* presents specific design guidelines to maintain and promote positive physical qualities of the community. *Historic Preservation* identifies the historic features and cultural heritage of Biggs and proposes measures to preserve these sites. *Recreation* documents the recreational needs of Biggs, and provides measures to satisfy those needs. Finally, *Community Services* identifies services that are needed for a healthy community and programs to help sustain those services.

3.1 COMMUNITY CHARACTER

3. COMMUNITY ENHANCEMENT



Hotel Colonia

The City of Biggs is a small, rural community in the southern portion of Butte County. Biggs was originally developed as a railroad access point for shipping local agricultural products. The impact of the railroad can still be seen in the strong alignment of the gridded streets with the railroad tracks and the railroad remains a strong visual image in the community. Biggs remains an agricultural based community and is located in the heart of crop fields and orchards. The small town character and rural atmosphere combine to make Biggs a desirable place to live.

GOALS, POLICIES, AND PROGRAMS

GOAL 3.1

Maintain the small town character that makes Biggs a special place to live.

POLICY 3.1.A

The compact form of the City will be maintained through a clear distinction between urban development and surrounding agricultural open space.

POLICY 3.1.B

Ensure that street design is pedestrian in scale and incorporates landscaping.

POLICY 3.1.C

Support efforts by residents and property owners to increase maintenance and improve properties within the community.

POLICY 3.1.D

The City will strive to revitalize the downtown area as the focal point of Biggs.

POLICY 3.1.E

New development shall be compatible with existing urban areas.

POLICY 3.1.F

Community gateways shall be developed as inviting and attractive entries to Biggs.

POLICY 3.1.G

New growth will incorporate the established street patterns into development design.

PROGRAM 3.1.1

Develop gateway entrances, using open space and design monuments, to entice travelers on Highway 99 to visit Biggs.

PROGRAM 3.1.2

Explore programs for improving maintenance and upkeep of properties throughout Biggs.

OVERVIEW

As Biggs continues to grow, challenges to maintain the community's character will increase. The appeal of this community is created by numerous positive attributes that form its identity. The community character should be maintained by preserving the special qualities that form the foundation of Biggs.

Biggs has a strong sense of community that is created by the visual character and the friendly atmosphere of the town. Recent developments have strayed from traditional building materials and design features that have created the look and feel of Biggs. It is

3. COMMUNITY ENHANCEMENT

important to link recent and future growth with the character of the historic community.

CITY FORM

Over the past 100 years, Biggs has maintained its compact urban form. The City has developed and evolved around the downtown business core area on B Street, between Fifth Street and Seventh Street. This downtown area is in the geographical heart of the City and has traditionally been the focal point for the community. Residential areas surround the downtown and extend in a gridded pattern toward the agricultural lands that encompass the City.

Another aspect of Biggs' urban form is the clear distinction between urban development and the open space/agricultural lands that surround the town. Orchards, row crops and rice fields surround the boundaries of the City. These fields and orchards have been important elements in creating the City, provide a sense of enclosure and define the urban development.

To maintain the urban character of Biggs, future growth and development should be orderly and promote a strong urban form. This urban form should reinforce the historic pattern of the City and maintain the downtown area as the focal point.

GATEWAY ENTRANCES



B Street Between Biggs and State Route 99

Clear gateway entrances into and out of Biggs help to establish a strong regional identity. A gateway is a visual entrance into a community, usually characterized by a transition from agricultural to urban landscape and often accentuated by monuments or design features. Prominent entrances can establish a sense of arrival and departure from an area and promote a sense of place for a community. A gateway location will gradually change over time as the urban area develops. The purpose of the gateway however, is constant. The gateway welcomes the visitor and resident into the community and provides a lasting image upon departure.

Three primary and two secondary gateway entrances to Biggs are described below. The character of each entrance and the function of each roadway is distinct.

B STREET

B Street connects the center of Biggs with Highway 99 and is the primary entrance to town. This gateway provides a transition from a high paced highway to a calmer road. Orchards that line this road enclose the view and center the vision on what lies ahead. This gateway is vital in offering a small town welcome to visitors and is a strong part of the City's character. It is important that travelers on Highway 99 take notice of this gateway as an invitation to Biggs.

3. COMMUNITY ENHANCEMENT

WEST RIO BONITO ROAD

This road enters the City from the north-east off Highway 99. West Rio Bonito Road is a traditional county road that provides a transition from the rural landscape to the urban form. The county farm makes way to the city street. Biggs Community Park and the Biggs High School greet visitors and give way to the city form.

This entry has the possibility of being the growth area of the city. West Rio Bonito Road offers the City the chance to create a gateway to attract visitors passing on Highway 99, which can be done with features such as landscaping, an arch, or pillars.

WEST BIGGS-GRIDLEY ROAD

This road connects the cities of Biggs and Gridley and serves local traffic between the two communities. West Biggs-Gridley Road enters the western edge of town from the low lying agricultural lands. The road provides travelers with an broad view of agricultural fields and the destination ahead. Biggs can be seen from a distance, creating a sense of arrival as the traveler approaches town.

SIXTH STREET

Sixth Street is a secondary entry that services the southern portion of Biggs. Access from farms and orchards on the outskirts of the City is provided by this road. The tree lined farms are quickly replaced with house lined streets. The abrupt transition develops a strong city edge and there is a clear distinction between the rural and urban form.

AFTON ROAD/EIGHTH STREET

This gateway provides access from Biggs to the surrounding communities of Willows, Chico, Afton and Richvale. Historically, this was a primary entry to Biggs, but in recent years use of this route has been limited to local and agricultural traffic. Accommodations should be made to improve this entry as a community gateway when development within Biggs and the communities to the north and west lead to increased use of this roadway.

STREET PATTERNS

The original street patterns of Biggs are gridded and aligned with the railroad tracks. This street design produces a small town feel and is a key to the character of Biggs. Recent developments have strayed from the traditional grid pattern. The creation of cul-de-sacs and curvilinear streets noticeably deviates from historic circulation patterns and tends to detract from the character of Biggs.

Maintaining the grid pattern produces greater options for development and increases access. A grid pattern allows for increased circulation and greater options for reaching various destinations. Roadways that are fragmented or end by design provide poor connection with surrounding roads and sometimes load traffic on to adjacent streets. Such circuitous or dead-end streets cause residents to drive extra miles, increase traffic in general and sometimes cause the use of autos for trips that could be accomplished by walking if direct routes were available.

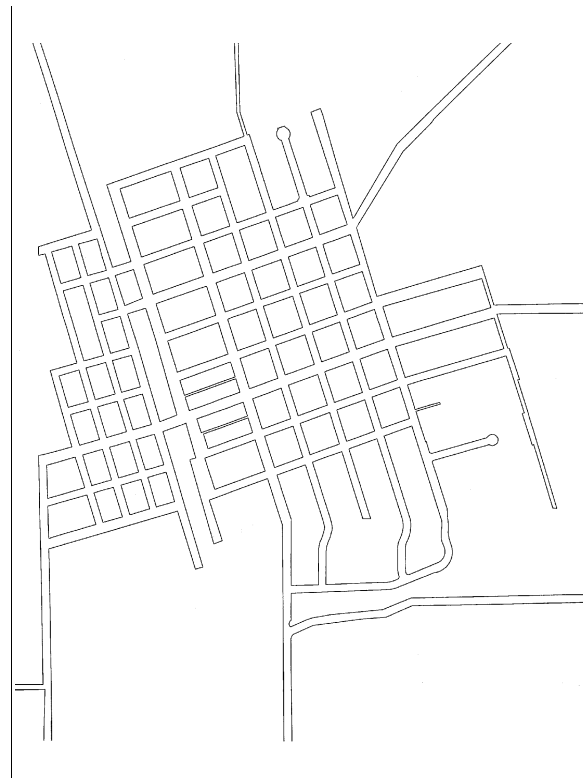


Figure 3.1 - Grid Pattern of Biggs Roadways

3. COMMUNITY ENHANCEMENT

The creation of cul-de-sacs and circular road patterns have the tendency to limit future developments by restricting access. The design of street patterns should promote future growth and allow the City to expand. Restrictive circulation patterns detract from the community character and limit orderly expansion.

DOWNTOWN REVITALIZATION



Hotel Colonia Under Renovation

Historically the City of Biggs has been a community with an attitude of self reliance. This is a city that likes to take care of its own. The downtown area was once a positive focal point of the town, but in past years this area has slowly declined. Because of this decline, the attitude of the community has shifted, from a city that is self sufficient, to one that relies heavily upon outside goods and services. It is essential that a positive focus be placed back upon the downtown area.

The downtown business area is in the heart of the historic portion of the city. An economically strong downtown is necessary to maintain unity and pride in the community. The downtown should be revitalized in order to produce a strong and self-sufficient city. The historic attributes of the downtown should be promoted as part of the revitalization effort.

CONTINUITY AND COMPATIBILITY

There is currently a polarization being created by the newer developments in Biggs. The new developments do not have the feel or the appearance of the older parts of town. There is a need to link these new areas to the City. It is important that new residential growth blend in with the feel and character of Biggs.

In order for new residential growth to blend in with the character of the existing City, several qualities must be incorporated into new development.

- Neighborhoods should maintain a human scale and streetscapes should welcome the pedestrian.
- New housing should be diverse in design and character.
- Developments should include features that are positive attributes in Biggs.
- Developments should maintain existing street patterns and provide linkages.

3.2 COMMUNITY DESIGN GUIDELINES



B Street Residence

Where Community Character was intended to preserve the feel of Biggs, this section proposes specific design and architectural qualities that create an attractive urban environment. The Interim Design Guidelines contained in this section will be utilized by the City during review of development proposals. Through the implementation of these guidelines the City will promote design features that maintain a standard of architecture and that contribute to a high quality visual appearance in the community.

GOALS, POLICIES, AND PROGRAMS

GOAL 3.2

Maintain and enhance the City's character and visual appearance in order to create a quality future community.

POLICY 3.2.A

New development shall conform to design guidelines as adopted by the City.

PROGRAM 3.2.1

New development shall be subject to design review to ensure that desired qualities are incorporated.

PROGRAM 3.2.2

The Interim Design Guidelines in this section shall be applied until final Design Guidelines are completed.

GENERAL GUIDELINES FOR DESIGN

The building has a clear architectural concept which is carried throughout all elevations to achieve continuity of design.

- Design of the building incorporates articulation and details to create architectural interest.
- Materials or textures are wrapped around the side of the building and do not end abruptly.
- Building texture is used to create interest and compliment a feature or concept.
- Site plan takes into consideration landscaping and existing vegetation.
- Site plan, elevations, textures and colors take into consideration the character of surrounding buildings and development.
- Signage is consistent in size, materials, location, and color with surrounding development.
- Exterior lighting is directed inward and onto the site.

LIGHTING

Lighting of commercial, industrial and residential uses can sometimes result in negative impacts to surrounding development because of light intensity and hours of operation

- Lighting within commercial, industrial and recreational uses shall be shielded so as to minimize glare intrusion on to adjacent residential uses.

3. COMMUNITY ENHANCEMENT

STREET DESIGN

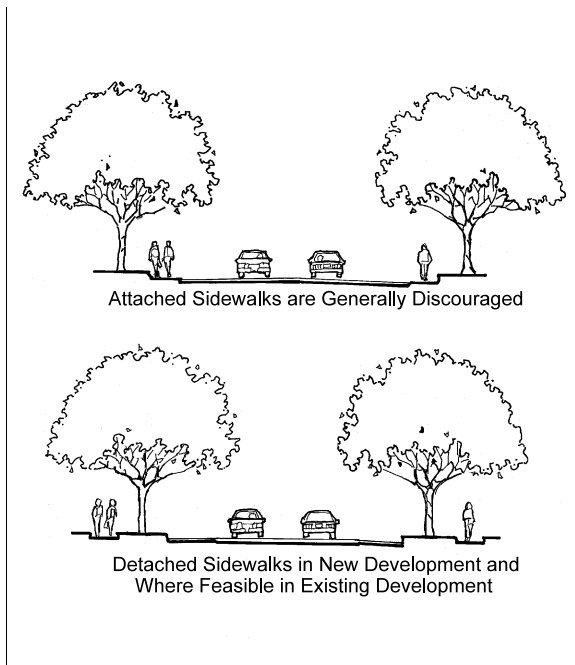


Figure 3-2 - Typical Street Sections

Future roadways should maintain historic patterns and design. The character of the community is enhanced by providing streetscapes that encourage residents to walk within the community. Design improvements offer the opportunity for increased bicycle and pedestrian use. Future roadways should use B Street as a model. Design improvements should comply with the following:

- Gridded street patterns are to be maintained.
- Cul-de-sacs and circular street patterns are discouraged unless absolutely necessary.
- Street patterns should encourage pedestrian circulation.
- Pavement (from curb to curb) should be the minimum width that adequately meets circulation demands.
- Streets should include appropriate streetscape improvements (landscaping and sidewalks.)
- Continuous and consistent tree planting to form canopy enclosure is encouraged.

- Sidewalks shall generally be detached from curbs with a planting strip. Curbs shall generally be vertical in design.

RESIDENTIAL DESIGN



Traditional Residential Architecture

The design of housing units should include various traditional building concepts that create a friendly, small town atmosphere. New development should add to the culture and character of Biggs.

LOT SET-UP AND SITE DESIGN

- Houses should be located toward the minimum front lot line setback.
- Detached and rear access garages are encouraged.
- Garage doors should not be the focal point of house design.
- Front doors and porches should be the most prominent aspect of house design.

DEVELOPMENT DESIGN AND VARIATION

Design compatibility should maintain the look of an area, but still provide architectural variety.

- Developments should provide architectural variation in the design of houses.
- New development should be compatible and complimentary to existing development, particularly with regard to aspects of historic design.

BUILDING ARTICULATION AND MASSING

3. COMMUNITY ENHANCEMENT

The housing stock of Biggs should be visually pleasing. This means that certain features of the house should be highlighted, in order to avoid a box-like appearance.

- Boxy building designs with no visual interest should be avoided.
- Avoid a lack of architectural detail which creates a plain appearance.
- Utilize varied materials, textures, or colors to create horizontal and vertical articulation.
- Break up solid wall surfaces with reliefs and variations in the depth of buildings.

SCALE OF STRUCTURE

- The size of structures should remain consistent with the surrounding buildings in the area.
- Buildings should maintain similar proportions.
- Height of structures shall be compatible with surrounding development. Typically residential development should not exceed two-stories and development along B Street should not exceed three stories.

BUILDING MATERIALS

The use of traditional building materials produces a natural feel that blends with the historical look of Biggs.

- Traditional materials such as wood and brick, are encouraged.
- Stucco and other simulated materials can detract from community character and generally are not encouraged.

WINDOWS AND DOORS



Door and Window Articulation

There are several window/door features that many older structures possess. These features are attractive and add to the traditional look of Biggs.

- Window and door treatment should include trim that accentuates the feature.
- Window panes are a historic and desirable feature.
- Textured relief, articulation and/or colored relief should create visual interest around the windows and doors.
- New developments should mimic these articulated design features.

3. COMMUNITY ENHANCEMENT

ROOFLINES



Attractive Variation in Rooflines

Roof design contributes to the image of a structure having quality and longevity.

- Rooflines should vary from one structure to the next.
- The roofline should not run in a continuous plane.
- Jogging or offsetting the roofplanes is encouraged to create relief and visual interest.

LANDSCAPING

Landscaping should be an integral part of the overall project or unit design.

- Landscaping should be used to define entrances to buildings, edges of land uses, and provide transition between neighboring properties.
- Include landscaping that accents the importance of the driveway from the street, frames circulation routes, and highlights pedestrian pathways.

COMMERCIAL/BUSINESS

Businesses should be designed to attract customers and encourage people to come to a specific area. Commercial/business structures should follow the previous guidelines for residential structures and incorporate the following additional guidelines. The following guidelines apply only to land designated as Commercial on the general plan Land Use Diagram.

- Maintain the community's character and appearance through the use of traditional materials and building styles.
- Utilize historic design features.
- Maintain pedestrian scales in the downtown area.

STOREFRONT DESIGN

The storefront is one the essential elements in the design of a building. It is important that this area is treated as a focal point of the structure. In the downtown area the historical look of the buildings is appealing.

- Articulate the different parts of the building's facade by use of color, arrangement of facade elements, or a change in materials.
- Avoid blank walls. Utilize windows, wall articulation, or other such features.

SIDEWALK TREATMENT

It is important that people want to be in the downtown area. This can be accomplished by making the downtown an area for pedestrians.

- The sidewalk should be a safe and interesting place for sitting and walking.
- Park benches and other street furniture should be available for people to sit down and enjoy the setting.
- Planter boxes and landscape vegetation are encouraged.
- Trash enclosures and bicycle racks are desirable features.

3. COMMUNITY ENHANCEMENT

SCREENING OF ROOF EQUIPMENT

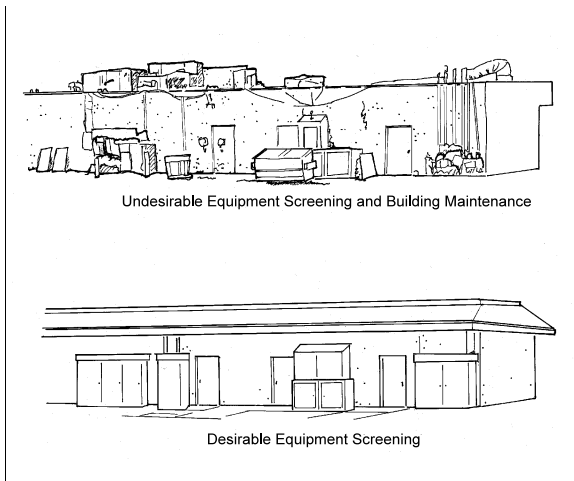


Figure 3.3 - Equipment Screening

- Screening of roof equipment shall be a part of the roof design and equipment installation.
- Utility meters, storage areas, and other equipment should be screened by design or a combination of fencing and vegetation screening.

ENTRANCES

The entrance of a building should be identifiable. Entrances to buildings can add a vertical element and break up the facade of a building.

AWNINGS

This can be an important feature of a building. Awnings add color and break up the vertical look of a facade as well as provide protection from the weather. Awnings are a positive attribute and should be encouraged in building construction

- The size, shape, and color of an awning should be compatible with the rest of the structure and adjacent development.

HISTORIC DESIGN GUIDELINES

These guidelines are to be used on all historically significant structures that promote the character of Biggs, including both residential and commercial structures.

- Research into the original appearance of the structure and the historical significance is encouraged. Before alterations, additions, or rehabilitations take place, it should be determined whether the original historic design can be restored or rehabilitated.
- Respect the design of a structure as a product of the design philosophy and reflection of a specific time.
- Retain and restore the distinctive stylistic features of the structure.
- Replace lost features when possible. Restore historical elements of original building designs to recreate the visual appearance of the original structure.
- Minimize the alterations that are made to a historic structure. Facade changes should be made only if absolutely necessary.
- Maintain the storefront elements. Original materials should be repaired or replaced when necessary. Storefronts are typically the most important part of a commercial building.
- Use historic colors when refinishing a building. Buildings should be painted in the historic colors that are appropriate to the architectural style of the building.
- Match the appropriate awnings to the building style. Awning design should not be the dominant feature in the facade.

3.3 HISTORIC PRESERVATION



Hastings House

The City of Biggs has a rich cultural and historic past. Originally inhabited by members of the Maidu tribe, the Biggs area was part of the Fernandez Land Grant. This Land Grant was made by the Mexican Governor of California, Governor Pio Pico, in June, 1846. The recipients of this grant were Dionisio and Maceimo Fernandez and totaled roughly 17,800 acres.

The City of Biggs owes its beginnings to the value of local soils for agricultural purposes. Originally established to serve the agricultural uses of the late 1800's, the building of the California and Oregon railway played an important role in the City's growth and Biggs developed as a locally important shipping point for agricultural products.

With the growth of agriculture in the area and the building of the railroad, Biggs can date its beginnings at 1870. Originally named Biggs

Station in 1871 after Major Marion Biggs, the town's name was shortened to Biggs in 1903, when the area was incorporated into a city. The old houses and downtown of the community are a testament to the vitality of the City during the late 1800's and early 1900's. The record and history of the beginning of the City should be preserved.

GOALS, POLICIES, AND PROGRAMS

GOAL 3.3

Maintain and enhance the historic resources, qualities and character of the City of Biggs.

POLICY 3.3.A

Identify, protect and promote the restoration of historic structures and physical reminders of Biggs' past.

POLICY 3.3.B

Maintain and archive public and private records important to the area's history and culture.

POLICY 3.3.C

Promote the preservation and revitalization of all historic structures and areas in Biggs.

POLICY 3.3.D

Work with the owners of downtown buildings to restore historically significant structures.

POLICY 3.3.E

Provide assistance as appropriate to groups or individuals that undertake historic restoration or preservation.

POLICY 3.3.F

Provide assistance as appropriate to developers that promote historic features as a part of their development design.

PROGRAM 3.3.1

Develop an inventory of all the historic structures and sites in Biggs and its sphere of influence.

PROGRAM 3.3.2

Adopt design guidelines that promote the

3. COMMUNITY ENHANCEMENT

incorporation of historic features in new developments.

PROGRAM 3.3.3

Adopt an Historic Preservation Plan which establishes strategies the City will use to promote historic preservation.

BACKGROUND

The Biggs historic area is currently made up of structures that are a representation of Biggs' development in the late 1800's and early 1900's as a railroad access point and agricultural shipping center. The core of the Biggs historic area is dominated by the structures forming a traditional main street. This area encompasses the downtown and much of B Street. There are also numerous historic structures scattered through out the city.

The Biggs historic area is significant because it is a representation of Biggs' status as an agricultural, residential, and railroad shipping center. Initial commercial and residential growth surrounded the railroad tracks and the gridded plat was orientated with the tracks. The City continued to prosper with the growth of the surrounding agriculture industry, which included hay and grains. Eventually additional residences were constructed and the town grew into a rural center.

When the grain and hay shipping yards closed in the 1950's, Biggs' significance as an agricultural transportation center was reduced. This coupled with the growth of the automobile and the loss of passenger rail service were hard obstacles to overcome. As a result, Biggs lost its importance as a railroad shipping hub and the City became an isolated residential community. The original urban form and many structures remain, as a reminder of Biggs' past importance as a rural center.

It should be noted that agriculture continues to play an important role in Biggs' character.

Many of our residents are farmers, while processing plants in and adjacent to Biggs provide drying and milling services for local agricultural products. However, these activities have declined while urban centers in Chico, Oroville and Gridley have continued to grow, thus reducing Biggs' regional significance.

HISTORIC FEATURES

Most of the historic structures in Biggs are located around the railroad tracts and within a few streets surrounding B Street. The Hotel Colonia, Sacramento Valley Bank Building, Carnegie Library, Methodist Church and various residences around the community are excellent reminders of Biggs' past. All of these structures have significant architectural features that are important in maintaining the character of the community.

Following this discussion are photographs of some of the more significant historic structures within Biggs. A map of these selected properties and other historic sites within Biggs is provided in *Figure 3.4 - Historic Resources*.

HISTORIC PRESERVATION PROGRAMS

Programs for the conservation of historic features and structures will vary depending upon the level of protection and the type of funding the City or property owner wishes to pursue. These will vary with the significance of the structure and the City's level of commitment to historic preservation.

HISTORIC PRESERVATION DESIGNATIONS

FEDERAL

At the Federal level, a structure can be designated on the Register for National Historic Places. In order to be on this list, the structure must have architectural and historical significance that promotes the integrity of the national history. The designation process requires from six months to three years to complete. This is the

3. COMMUNITY ENHANCEMENT

strongest level of protection that can be provided. It is also the strictest level and upon placement on the register, permission must be granted by the Secretary of the Interior before modifications to the structure may take place.

STATE

At the State level, a structure can be designated on the California Register of Historic Places. The structure must significantly promote California history and architecture to be placed upon this list. Once listed, permission must be granted for any kind of alteration to the structure. State listing is more easily accomplished than Federal listing since only California history must be promoted through the preservation of the structure.

LOCAL

Many options are available to the local jurisdiction to promote Historic Preservation. The City may pass an Historic Preservation Ordinance or create an Historic District to protect various areas or structures. A Specific Plan can be prepared that will address issues of traffic, housing, land use and design review of a project area or district. Another preservation tool is the State Historic Building Code, which addresses specific construction problems that older structures face.

FUNDING SOURCES

Generally, the greatest challenge to historic preservation is related to the economic burden of structural renovations. The funding sources listed below should be considered and incorporated as appropriate in the City's Historic Preservation Plan.

COMMUNITY DEVELOPMENT BLOCK GRANTS

CDBG's are used to develop urban communities by expanding economic opportunities, primarily for persons of low or moderate income. Small towns like Biggs would use the Small Cities Program. Use of the funds may be for acquiring historic structures, rehabilitation, construction, and

code enforcement. Moneys can be used to fund studies, such as Historic District Specific Plans, or provide low interest loans for renovations.

CERTIFIED LOCAL GOVERNMENT PROGRAM

A local government must have an Historic Preservation Committee or be in the process of completing an inventory of historic resources to participate in this program. This program gives unincorporated and smaller incorporated areas a chance to get federal and state grants.

TAX INCENTIVES

By making tax incentives available to owners, local governments encourage preservation of important properties. A contract between the property owner and the agency assures that property owners will be given public money (tax credits) if they maintain their property.

MILLS ACT CONTRACTS

In California, owners of historic properties can get reduced property tax rates through this program. The program requires a contract that lasts for ten years and owners must give up any future development rights for the duration of the contract. Owners must agree to restore the property as necessary and maintain the historical character.

CHARITABLE CONTRIBUTIONS

An historically important structure may be donated to the government or other preservation organization. Property owners may deduct the value of the donated property from their federal income tax.

BOND MEASURES

The City may vote on a bond measure to generate money. The City would then pay this money back in future years. This money could be used for low interest loans and the City could work with private property owners in renovating their property.

3. COMMUNITY ENHANCEMENT

SIGNIFICANT HISTORIC STRUCTURES

The following list identifies the historic structures depicted in *Figure 3.4*. The structures listed below merit further consideration under programs intended to preserve the history and heritage of Biggs. This list is not necessarily comprehensive and further investigation is required to determine whether all listed structures merit active preservation efforts, as well as whether other structures not listed should be considered. Following *Figure 3.4* are photographs of eight of the more significant historic structures in Biggs which reflect the community's history and heritage.

<i>SITE NUMBER</i>	<i>STRUCTURE NAME AND LOCATION</i>
1.	Doty Grain Storage
2.	Ditzler House, 3069 Eighth Street
3.	3055 Ninth Street
4.	3031 Ninth Street
5.	Doty House, 3009 Tenth Street
6.	Biggs Water Tower
7.	Biggs Jail House built by WPA, 3005 Eighth Street
8.	2995 Tenth Street
9.	Diamond Match, 2687 Eighth Street
10.	2967 Tenth Street
11.	A.J. Store House, 2970 Eighth Street
12.	South Side of B Street
13.	Hotel Colonia, Corner of B and Sixth Streets
14.	Sacramento Valley Bank, 470 B Street
15.	Carnegie Library, B Street
16.	Albers House, 457 B Street
17.	Methodist Church, 441 C Street
18.	Hastings House, 429 B Street
19.	Cannoy House, 1871
20.	403 C Street
21.	395 C Street
22.	W.M. Smith, 394 B Street
23.	B Street and Second Street
24.	Caldwell House, 393 B Street
25.	Chatfield House, 372 B Street
26.	Brinks House, 369 B Street
27.	Mitchell House, 369 Aleut Street
28.	359 B Street
29.	353 B Street
30.	347 B Street
31.	Biggs Grammar School (BUSD Administration Building), B Street

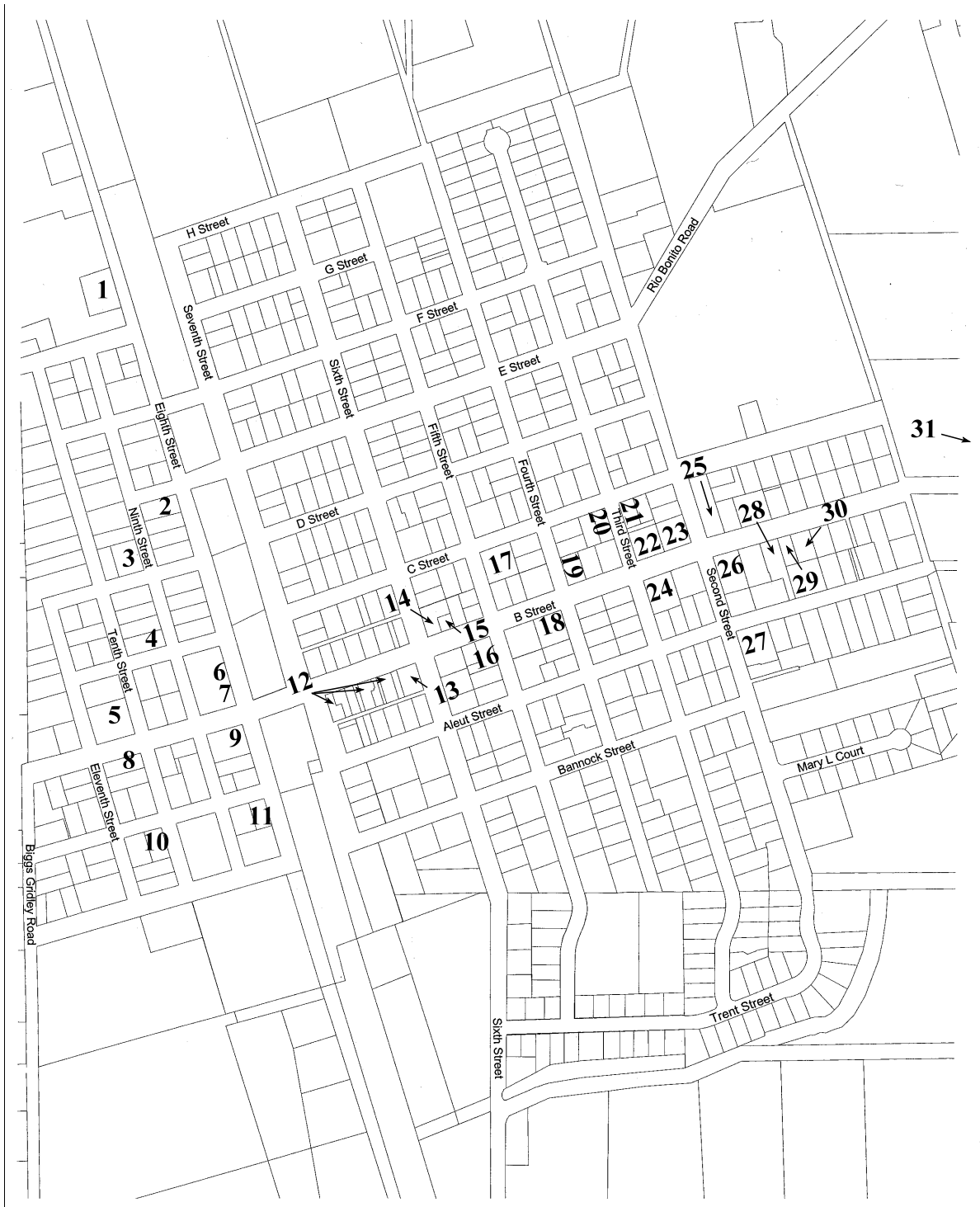


Figure 3.4 - Historic Resources

3. COMMUNITY ENHANCEMENT



Site 15

The Sacramento Valley Bank building was built before 1907 and is a reminder of Biggs' early prosperity as an agricultural and business center.



Site 27

The Mitchell house, built in 1871, is typical of residential homes created for the average person around the turn of the century.



Site 16

This one time farm house was built in 1874 by Paul and Doris Albers. This residence is on a portion of Block 10 of the original town survey.



Site 17

The Methodist Church was built before 1871 and has served the religious needs of the community for more than 90 years.

3. COMMUNITY ENHANCEMENT



Site 26

The Brinks House was built around the turn of the century and served as a funeral home for much of the 20th century.



Site 2

The F.A. Ditzler House was built before 1907 and was the first home of one of Biggs' more prominent businessmen in the early 1900's.



Site 13

The Hotel Colonia, built in 1903, stands at the center of Biggs and once had the reputation of being among the best establishments in the Sacramento Valley.



Site 18

The J.M. Hastings House is a Victorian style mansion built around 1887. This was the home of a senior partner in the Biggs Meat Market.

3.4 Recreation



Children at play in the Biggs Pool

Public parks and recreational areas are an important part of the urban community. Parks not only provide recreational opportunities for residents, but are also significant to the City's character and image. Recreational opportunities are not limited to parks and open space exclusively. Schools and other public facilities provide the possibility for public meetings and organized events. Abundant recreational facilities are essential to a community's well being.

GOALS, POLICIES, AND PROGRAMS

GOAL 3.4

Biggs shall provide ample recreational facilities and opportunities for all members of the community.

POLICY 3.4.A

Work with the Biggs Unified School District in the development, maintenance, and operation of school/public park sites.

POLICY 3.4.B

The City shall strive to maintain and improve parks and recreational buildings and facilities.

POLICY 3.4.C

The City will identify the need for and future locations of recreational facilities.

POLICY 3.4.D

Strive to provide a ratio of ten acres of park land per 1,000 residents.

POLICY 3.4.E

Dedication of park and recreational facilities, or payment of in-lieu fees, shall be required of all new residential development.

POLICY 3.4.F

The City will work toward the creation of a community center.

PROGRAM 3.4.1

The City shall prepare a Park and Recreation Master Plan which identifies facility requirements, defines facility costs and provides funding mechanisms.

PROGRAM 3.4.2

Revise Ordinance 211 requirements for the dedication of parkland and facilities. Specifically, consider appropriate formulas for dedication requirements.

PROGRAM 3.4.3

Develop and adopt City park standards to guide construction of new park facilities.

PROGRAM 3.4.4

Explore options for establishing a City Park and Recreation Department.

BACKGROUND

Long range planning for parks and recreation areas is an important component of the general plan process. Recreation programs need careful advance planning to ensure that future needs are met in terms of land availability, maintenance, and funding. Recreational facilities are an important component of community character.

EXISTING RECREATIONAL FACILITIES

Park and recreation facilities in the Biggs area are provided by the City of Biggs, the

3. COMMUNITY ENHANCEMENT

County of Butte, and the Biggs Unified School District. These facilities include the following:

COMMUNITY PARK

The Biggs Community Park is located on Rio Bonito Road about one-half mile east of Second Street. It encompasses about seven acres which are leased from the school district. It is managed and operated by the City. The site has been improved by the City to include the following facilities:

- Picnic and open area
- Two ball diamonds (one with lights)
- Auto parking area
- Rest rooms

BIGGS SWIMMING POOL

The community swimming pool is located on the school district property east of Second Street. It is managed and operated by the Biggs Unified School District with financing from a special County service area tax. The swimming pool was constructed about thirty years ago and presently requires significant renovation.

CORK OAK PARK

This small neighborhood park is located adjacent to the swimming pool and is owned and maintained by the School District. Approximately one acre in size, this park provides picnic tables, horseshoe pits and turf amid a former cork oak orchard. This site is available for use by the community as a City park.

VETERANS BUILDING

The Veterans Building is located on a large lot adjacent to the eastern City limits on B Street. It is managed and operated by the County of Butte. Use of the building is open to everyone in the community, with preference given to veterans groups. The building was constructed about forty years ago and is in need of significant renovation.

PASSIVE RECREATION

Two small passive recreation areas are maintained by the City. One area is located on the north side of B Street between Sixth

Street and Seventh Street. Amenities include landscaping with benches and an historic dedication plaque. The other area is located on the north side of B Street near the water tower and improvements include a small lawn and a picnic table.

BIGGS UNIFIED SCHOOL DISTRICT

The school grounds of the Biggs Unified School District are also available for public use on a limited basis. The school grounds and facilities are considered supplemental to the listed park and recreation areas and serve an important role in meeting the needs of the community.

STANDARDS

The City shall strive to provide 10 acres of park and open space per 1,000 population. This acreage would include small and large parks with indoor and outdoor recreation of all kinds. Due to changing recreation interests of the public, it is difficult to list a definite amount of space to be allocated for each recreational use. However, it is important to maintain the ratio of open space available for public recreation purposes

The ratio of park acreage per 1,000 population in Biggs is currently about 6.25 acres to 1,000 people. The recreation areas are all within 3/4 mile of all residents.

There are generally three park categories that serve the Biggs community. These are:

MINI PARKS AND PLAZAS

Mini Parks are the smallest public recreation areas. They vary in size from left over portions of lots to an acre. Due to their small size, mini parks usually have a single type of use, such as, children's play area or passive area. Mini parks are recommended only where absolutely necessary because their purpose can be met more effectively and economically by larger neighborhood or community parks.

NEIGHBORHOOD PARKS

Neighborhood parks are usually designed to

3. COMMUNITY ENHANCEMENT

serve children five to fourteen years of age. They can also serve adult groups whose activities are confined to neighborhood residents. They can vary in size from five to nine acres. If they are developed adjoining elementary school grounds the size can be reduced to three to five acres. Each neighborhood park should be within a one-half mile walking distance of the population being served. Suggested facilities include:

- Young children's play equipment (under five years of age)
- Older children's play equipment (over five years of age)
- Paved area for court games (generally not lighted)
- Turfed multi sports field area
- Individual and group picnic area
- Passive or quiet area
- Circulation or walkway system
- Transitional or buffer areas
- Vehicle off-street parking

Development of each park should respond to the recreational needs of the neighborhood and available funds. Some of the above uses will not be compatible with any given site.

COMMUNITY PARKS

Community parks provide space for uses which require more area than is available in the neighborhood parks. Community parks should also serve the recreation needs of the immediate neighborhood. Community parks generally vary in size from ten to twenty acres. They are preferably located adjacent to high school sites. They serve an area within a one or two mile radius. Suggested facilities include:

- All uses listed for neighborhood parks
- Large group picnic areas
- Sports and recreation fields (may be lighted)
- Larger quiet nature areas

The guidelines listed above may be modified as necessary to match unique park site needs and available funds.

FUTURE RECREATIONAL FACILITIES AND SITES

COMMUNITY PARK

The greatest potential for meeting future recreational opportunities is with the construction of a new community park. The National Park and Recreation Guidelines recommends that Community Parks are constructed next to high schools. The Biggs Unified School District has purchased land on Rio Bonito Road. It is anticipated that the City will work with the school district in developing a new park. The creation of a new community park would achieve Biggs' desired ratio of park land per resident.

NEIGHBORHOOD PARK

There is a current need for a park on the south western side of Biggs. A neighborhood park would meet the needs of current and future growth. The specific location of this park is dependent upon the direction of future development.

YOUTH CENTER/SENIOR CENTER

There is currently a need for both a youth center and a senior center. The City should consider opportunities for purchasing a building and furnishing it for community use. The Veterans Building or an existing downtown building should be considered for a community center. Such a facility would provide the opportunity for citizens to meet, have civic functions, and provide recreational opportunities.

PARKS AND RECREATION DEPARTMENT

The City will examine the possibilities of creating a Parks and Recreation Department. There is a concern in the community that not enough recreational opportunities exist for the youth. Organized recreational activities provide supervised attention and a release of productive energy.

FUNDING AND FINANCING OF PARKS

Various methods are available for financing recreation facilities. These include grants, private donations, assessment of fees as a

3. COMMUNITY ENHANCEMENT

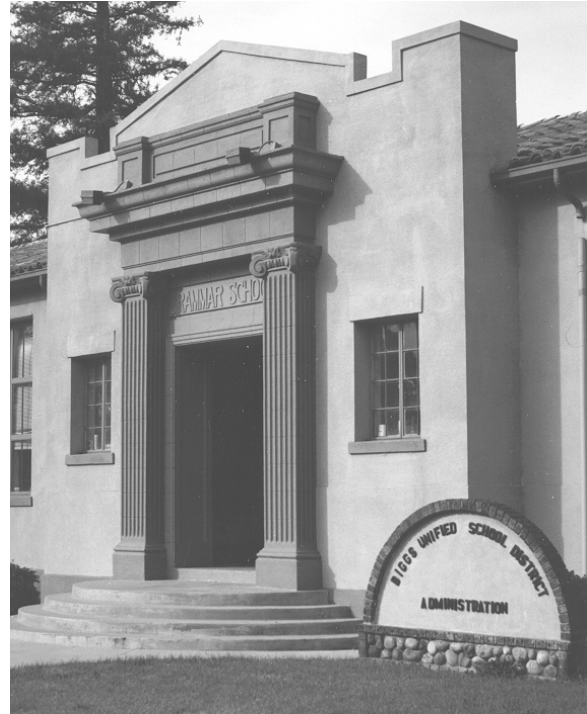
condition of development approval and establishment of City wide assessment districts.

Donations of labor and money from individuals and local service clubs can be used to construct and maintain recreation facilities. Local groups such as Little League, Lions, and PTA have traditionally supported recreation facility projects, especially the projects that benefit young people.

Grants from the state and federal government are also available to finance construction of new recreation facilities. Such grants are often used to supplement local funds in order to produce a larger or higher quality project.

The City has the authority to require payment of fees for park and recreation purposes as a condition of project approval. These fees must be based on a study of the needs of the community and must have a nexus or relationship to the demand created by the proposed development. Fees can be assessed to new subdivisions and building permits.

3.5 COMMUNITY SERVICES



Biggs Unified School District Administration Building

The presence of ample social services contributes to the welfare and health of a community and helps to establish a desirable environment in which people choose to live, work, and invest. It is essential that the growth of a city be guided by the ability to provide and sustain community services. This means ensuring that demands created by new development can be met without diminishing the quality of services within the existing community.

Safety related services of fire and police protection are addressed within the Public Health and Safety Element, and infrastructure is discussed within the Public Facilities Element.

3. COMMUNITY ENHANCEMENT

GOALS, POLICIES, AND PROGRAMS

GOAL 3.5

The City shall maintain a system of basic social services which meet the needs of existing and future members of the community.

POLICY 3.5.A

Provide effective and cost efficient community services for current and future residents of Biggs.

POLICY 3.5.B

Encourage programs that enhance the culture of the community, such as museums and art facilities.

POLICY 3.5.C

Promote the growth and expansion of the City Library.

POLICY 3.5.D

Maintain the general government services that are needed for a healthy community.

POLICY 3.5.E

Encourage BUSD to provide educational facilities with sufficient permanent capacity to meet the needs of current and projected enrollment.

POLICY 3.5.F

Encourage the establishment and expansion of health services in Biggs.

POLICY 3.5.G

Require new development to provide for increased demands for services resulting from the development.

POLICY 3.5.H

Encourage and promote expansion of transit services within Biggs.

PROGRAM 3.5.1

Investigate programs to expand library facilities and services within the community.

PROGRAM 3.5.2

Pursue programs through California State University, Chico which promote cultural events in the community.

PROGRAM 3.5.3

Work with the school district to provide and maintain high quality educational programs.

PROGRAM 3.5.4

Annually review the cost effectiveness and quality of services which are provided to the City on a contract basis.

BACKGROUND

A healthy community requires that ample public services and facilities be maintained. An adequate system of community services allows future growth to occur, along with various land uses and activities. This section offers an overview of services that are provided to the community as well as the methods through which these services are provided.

EDUCATIONAL FACILITIES

The Biggs Unified School District provides educational opportunities for resident children in grades kindergarten through the twelfth grade. The facility's locations, grade spans, and 1992, 1994, and 1996 enrollments are shown in *Table 3.1 - School Enrollment Figures*.

TABLE 3.1 SCHOOL ENROLLMENT FIGURES			
SCHOOL ENROLLMENT	1992	1994	1996
Biggs Elem. School K-6	475	478	413
Richvale Elem. School 1-6	45	62	60
Biggs Middle School 7-8	113	120	151
Biggs High School 9-12	220	185	191
Total Enrollment	853	845	815

Source: Biggs Unified School District

The total district enrollment has fluctuated

3. COMMUNITY ENHANCEMENT

greatly since the district was formed. The 853 student enrollment in 1992 is the highest enrollment experienced to date. It should be noted that the previous peak enrollment of 767 students occurred in the first month of the 1976-77 school year. Following that peak the District experienced a steady decline until a low of 648 students enrolled for the 1984-85 school year. The student enrollment for 1995 and 1996 has steadily declined and is expected to continue.

Richvale School serves to accommodate fluctuations in enrollment. During the period from 1973 to 1977 the entire 6th grade of the district attended Richvale school. That facility has four classrooms while the community typically sends enough children to fill only two of the classrooms. During the 1989-90 school year, enrollment in the Biggs Elementary School exceeded capacity and a number of children were transferred to Richvale for one year on a voluntary basis.

Enrollment at Biggs Elementary School has maintained a consistent pattern and in recent years there has been a steady decline as shown on *Table 3.2* below.

TABLE 3.2 BIGGS ELEMENTARY SCHOOL ENROLLMENT 1990 - 1997	
1990-91	427
1991-92	475
1992-93	476
1993-94	451
1994-95	478
1995-96	446
1996-97	413

Source: Biggs Unified School District

Three portable classrooms were established on the elementary school site in the summer of 1990, four more in the summer of 1991, and two more in the summer of 1992. The District was required by the State Department

of School House Planning to provide 4 acres of additional playground space in order to accommodate the additional enrollment housed in the nine added portables. This playground space was taken from the Biggs High School Farm and has been turfed. With the District's class loading practice of 25 students per classroom, the 9 classrooms and 4 acres of playground space increased the capacity of the Elementary School by 225 students.

The Biggs Elementary School has space for four more portable classrooms which would provide for another 100 students. This amount is considered adequate to house any expected enrollment growth in the short term.

The District owns 30 acres of undeveloped land (in addition to the High School farm) on Rio Bonito Road that will provide area for facilities to serve future growth. It is anticipated that at some future date a new high school will be built on that site and the present high school facilities will be turned over to the middle school 7-8 program.

If the District adheres to the "neighborhood school" concept the next site acquisition required would be ten acres for a second elementary school in the Biggs area. Location of this future school will be based on the direction and pattern of future development

3. COMMUNITY ENHANCEMENT

LIBRARY FACILITIES



Biggs Carnegie Library

The Biggs City Library is located on B Street between 5th Street and 6th Street. The library is located in the historic Carnegie Library building constructed in 1908. Library services currently fall short of community desires and needs. The physical condition of the facility, staffing level, currency of the collection, and subject depth are not perceived to be adequate.

The library is currently staffed by volunteers and is open Tuesday and Thursday 2:00-5:00 p.m. The City should pursue options for expanding library facilities. Additionally, the City strongly supports the acquisition of a computer and internet access for community use.

GENERAL GOVERNMENT

At the foundation of a healthy community are the services and facilities that help to manage and maintain the city. The City Departments, individual positions, and outside agencies that provide community services include:

- City Council
- Planning Commission
- City Management (Administration)
- City Public Works Department
- City Attorney
- City Planner
- City Engineer
- City Animal Control Officer
- County Building Department
- County Sheriff's Department
- County Fire Department

Many of the government services are currently contracted out. This is because of the relatively low demand that is placed on government services. As of 1997, public services provided on a contract basis include fire protection, police protection, planning services, engineering services, building permit and building inspection services. The City should periodically evaluate the cost effectiveness of these programs to ensure that maximum benefits are received at reasonable costs.

FUTURE ADDED AMENITIES

HEALTH SERVICES

There are currently no health services located in Biggs. The nearest facilities are located in Oroville and Gridley. The general trend in Biggs is that the population is growing older. The ability to obtain local health services has become a growing concern.

Given the need for greater availability of local health services, the City should encourage local health care providers to locate offices or clinics within Biggs to serve the local community.

MUSEUM

3. COMMUNITY ENHANCEMENT

There has been considerable support within the community to establish a Biggs Museum. Such a facility would be an excellent cultural opportunity to preserve the history of Biggs and display local art or craft exhibits. The City will examine the possibility of promoting a community museum that provides exposure to local history, cultural events and local artisans.

SENIOR CARE FACILITY

There is an increasing need for a limited care senior facility within Biggs. Such a facility would provide rooms with kitchenettes as well as central cafeteria facilities and social meeting areas. Such a facility would allow long-time residents of Biggs to remain in town when the burden of living in a house alone becomes too great.

4. PUBLIC FACILITIES



Water Line Installation

- Introduction
- 4.1 General Infrastructure
- 4.2 Water Supply Facilities
- 4.3 Wastewater Disposal
- 4.4 Storm Drainage Facilities
- 4.5 Electrical Utility Service
- 4.6 Solid Waste Management

INTRODUCTION

LEGAL BASIS AND REQUIREMENTS

Various aspects of public facilities are considered within this element. While state law requires the general plan to address domestic water service issues, requirements regarding other facilities are not clearly or specifically defined. However, State law encourages the local jurisdiction to include any other element which it determines to be relevant to the jurisdiction (Gov. Code § 65303). This element considers the range of public facilities which the City must provide to support existing and future urban land uses.

Safety related issues such as fire protection and flood control are discussed within the Public Health and Safety Element. However, the facilities required to respond to these hazards, including domestic water and storm water conveyance systems, are discussed within this element.

4.1 GENERAL INFRASTRUCTURE

Expanding public facilities to meet the needs of a growing community is a primary concern of the City. Achieving this will require careful planning of new facilities and collection of appropriate funds. The following goal, policies and programs establish general requirements for the planning and financing of new facilities.

GOALS, POLICIES AND PROGRAMS

GOAL 4.1

Ensure that public facilities are planned and constructed in a comprehensive and efficient manner and that new development provides for facilities on an equitable basis.

POLICY 4.1.A

All infrastructure costs necessary to serve new development shall be borne by the new development.

POLICY 4.1.B

Concurrent with development approvals all rights-of-way and easements must be identified and offered for public dedication.

POLICY 4.1.C

Construction of oversized or off-site facilities may be required of development projects to provide capacity for future development. Reimbursement agreements shall be established, consistent with the Subdivision Map Act, to ensure fair share costing.

POLICY 4.1.D

Development projects benefitting from oversized facilities shall be required to pay reimbursement fees consistent with their fair share cost of the improvement as identified in Policy 4.1.C.

POLICY 4.1.E

The City shall require development agreements for public improvements associated with all new subdivisions. Development agreements shall be reviewed by the City Engineer and Finance Director, and approved by the City Council, prior to construction of public improvements.

POLICY 4.1.F

Development impact fees shall be collected from all new development projects to offset costs of providing public facilities and services.

POLICY 4.1.G

Prior to approval of new development projects, applicants shall specify project related demand for sewer, water and electrical services and project approval shall be granted only after capacity to provide required services is confirmed by the City.

PROGRAM 4.1.1

Facility master plans shall be prepared for:

- Circulation and Transportation
- Storm Drainage
- Water Supply and Distribution
- Wastewater Collection and Treatment

PROGRAM 4.1.2

Establish procedures for requiring facilities to be designed and constructed to meet ultimate facility demands described within facility master plans.

PROGRAM 4.1.3

Prepare guidelines for reimbursing development projects which provide oversized or off-site facilities that benefit future development.

4.2 PUBLIC WATER SYSTEM FACILITIES



City of Biggs water tower

This section addresses issues related to domestic water service throughout the community, including ensuring that community water supplies will meet the needs of the community and that adequate facilities to treat and deliver domestic water are created as new development and urban expansion occurs.

GOALS, POLICIES AND PROGRAMS

GOAL 4.2:

Ensure an ample supply of high quality water and adequate treatment and distribution facilities are available to meet the present and future needs of the City.

POLICY 4.2.A

Provide a supply and distribution system which conforms to the State Department of Health guidelines and standards.

4. PUBLIC FACILITIES

POLICY 4.2.B

Ensure that water volume throughout the City is sufficient for emergency response and fire suppression demands.

POLICY 4.2.C

Establish and collect appropriate development impact fees to finance new wells, pumps, mains, over-sizing mains, treatment, storage and other water system improvements as needed to serve new development.

POLICY 4.2.E

New developments shall provide for sufficient water supply capacity to serve the domestic and fire protection needs of the proposed use based upon approved City standards.

POLICY 4.2.F

Water systems within new development shall be constructed to provide looped water systems and, when possible, eliminate dead-end water service lines.

PROGRAM 4.2.1

Prepare and implement a Water Service Master Plan. The Plan should:

- Incorporate currently proposed water main improvements.
- Specify how water from the three City wells will be utilized.
- Identify standards of water availability (supply and storage) required for approval of new development.
- Specify design of water delivery systems to ensure adequate fire suppression flows.
- Provide a basis for determining fees for providing water service to future development noted within Program 4.2.2.

PROGRAM 4.2.2

Review, and revise as necessary, development fees for water service to ensure that fees are adequate and appropriate.

EXISTING WATER SYSTEM CONDITIONS

The Biggs domestic water system has been serving the community since 1904 when two wells were drilled and the initial mains were constructed. One of these original wells, Well No. 1, is still in use. The system is owned and maintained by the City. It provides domestic water and fire protection for residents and property in the City.

WATER SUPPLY

Water is currently supplied by three wells within Biggs. Well No. 1 serves as the primary source of water throughout the year and is located adjacent to the City's water tower. The well pump is activated as the storage tank is drawn down.

The Willard Well, is located on C Street between First Street and Second Street. Water quality from Willard Well meets state standards, but the presence of hydrogen sulfide results in taste and odor that make this water source less desirable.

Well No. 3 is located near the southern end of Second Street. Completed in early 1997, Well No. 3 will replace Willard Well as a primary source of water. The Well No. 3 pump feeds directly into the water system and operates at variable rate in response to water demand and system pressure. It is anticipated that Willard Well will only be used in cases of extreme water demand resulting from emergencies.

TABLE 4.1 WELL SUMMARY		
Well	Capacity	Pump
Well No. 1	1,000 gpm	60 horsepower
Willard Well	700 gpm	40 horsepower
Well No. 3	850 gpm	40 horsepower

Source: City of Biggs Public Works Dept.

4. PUBLIC FACILITIES

WATER PUMPING CAPACITY

Wells No. 1 and No. 3 have a combined pumping capacity of 1,850 gallons per minute (GPM). This capacity is slightly greater than the previous combination of Well No. 1 and Willard Well. Based upon a pumping capacity of 1,850 GPM, the maximum volume of water the pumping system can deliver is approximately 2.66 million gallons per day.

However, under emergency conditions Willard Well would provide additional flow for a total of 2,550 GPM, or 3.67 million gallons per day.

WATER STORAGE

The 40,000 gallon capacity elevated water tank has been serving the City since before 1940. The tank is located near Well No.1, and is constructed of steel and is generally considered to be in good repair.

WATER DEMAND

Domestic water is served to about 600 customers on a flat rate basis. Water usage statistics are listed in *Table 4.2.2*. Data in the table illustrates the changing public concern for water conservation. The per capita consumption has declined steadily since 1985.

TABLE 4.2 WATER USAGE STATISTICS								
YEAR	TOTAL WATER USE (MG)	PEAK MONTH (MG)	PEAK DAY (MG)	TOTAL WATER SERVICES	TOTAL POP.	PEAK MONTH PER SERVICE (GALLONS)	PEAK MONTH PER PERSON (GALLONS)	PEAK DAY PER PERSON (GALLONS)
1985	211.11	34.8	1.49	558	1,497	62,350	23,250	995
1990	212.02	33.84	1.26	571	1,581	59,300	21,400	795
1995	193.99	28.63	1.12	583	1,640	49,100	17,450	685

Source: City of Biggs Public Works Dept.

WATER DISTRIBUTION SYSTEM

The water mains in the City vary in size from two inches to eight inches in diameter. The old system mains which were welded steel and cast iron are gradually being replaced with larger capacity plastic pipe.

FIRE PROTECTION

Providing adequate flow volume for fire suppression is a critical aspect of water system design. Two primary factors affect the ability to deliver adequate flow: system volume and distribution system design.

Volume is based upon the capacity of pumps to introduce water into the system and the capacity of storage facilities. The current configuration of Well No. 1 and Well No. 3 will

supply up to 1,850 GPM, and 2,550 GPM is Willard Well is activated.. Additionally, the water tower provides 40,000 gallons of reserve capacity.

Within Biggs, the delivery system is the limiting factor in providing adequate fire suppression flows. Most water mains in Biggs are six inches in diameter. It is estimated that in most locations the delivery system could provide only 1,000 GPM maximum flow.

In addition to water main size, delivery lines which dead-end also reduce water flow capacity. Therefore, all pipes within the system should be looped as this design increases the capacity of water flow

throughout the system.

FUTURE WATER SYSTEM NEEDS

Water system needs will change as the City grows, as state and federal standards become more stringent and as new products and methods of operation become known. The City must continue to adjust and improve its water system to meet new requirements and standards.

WATER SUPPLY PUMPING CAPACITY AND QUALITY

The City has worked for a number of years to increase its pumping capacity. The completion of Well No. 3 will improve the quality of water within the system. However, this new facility may not significantly affect delivery volume throughout the system if Willard Well is operated in a standby mode. Well No. 1 is located on the west side of the Southern Pacific Railroad with only two water mains extending under the tracks to serve the east side of the City. The lack of crossings under the railroad presently results in pressure loss on the east side of the City during periods of high water demand.

WATER DISTRIBUTION SYSTEM

The existing water distribution system has 2,640 feet of substandard mains which should be replaced. It also has 14 dead end lines which should be connected to provide a complete looped system. The City should develop and implement a water system improvement program to replace all substandard mains and connect all dead end lines.

FEES FOR NEW DEVELOPMENT

As of January 1997, the single family home water service connection fee is \$1,800.00. This includes a collector and a connection fee. Service connection fees for new development should be reviewed as necessary to account for the changes in cost to provide new and existing wells, pumps, treatment facilities, storage facilities, over sizing and appurtenances.

4.3 WASTEWATER DISPOSAL



Biggs Wastewater Treatment Plant

This section considers the entire system of collection, treatment and disposal facilities which are required to process the wastewater generated by the community.

GOALS, POLICIES AND PROGRAMS

GOAL 4.3

Develop and properly maintain facilities to transport, treat and discharge wastewater in a safe and sanitary manner.

POLICY 4.3.A

Construct and operate a wastewater system which meets the requirements of the Regional Water Quality Control Board (RWQCB).

POLICY 4.3.B

Require all new development to connect to the City wastewater system. Septic tank systems will not be allowed except for special cases defined by City ordinance.

POLICY 4.3.C

Development impact fees shall be collected from all new development projects to offset costs of providing wastewater system improvements required to serve new

developments.

PROGRAM 4.3.1

Develop a Wastewater System Master Plan to identify immediate and future infrastructure needs and establish a plan to construct the improvements. The Master Plan should include specific measures to reduce rainfall and groundwater infiltration within the wastewater system, as well as appropriate development impact fees.

Existing Wastewater System Conditions

The Biggs wastewater collection and treatment system was originally constructed in 1922. The system is owned and operated by the City and has been significantly modified and expanded over the past 75 years. Major system improvement/reconstruction was accomplished in 1977-78. The City is currently in the process of improving plant and collection facilities to enhance system performance.

WASTEWATER TREATMENT PLANT

The Biggs wastewater treatment plant is located on a nine acre site about one-half mile west of West Biggs Gridley Road. The plant was reconstructed in 1977-78 to provide more complete treatment of the wastewater.

Wastewater is pumped into one of four aeration lagoons, where pumped air induces aerobic biological digestion. Wastewater then flows into a polishing pond to remove additional organic and solid matter. The treated water then flows through one of two intermittent sand filters. Finally, the water is chlorinated, dechlorinated and discharged into the Reclamation District 833 drain.

The treatment plant has a design capacity of 0.35 MGD dry weather flow and operates under California Regional Water Quality Control Board Permit No. 84-137 (NPDES No. CA0078930). Facility operation must comply with the conditions attached to the permit. As of January 1997 the City was undertaking improvements to the treatment facility to bring the plant into full compliance with the Water Quality Control Board Permit.

4. PUBLIC FACILITIES

Performance of the treatment facilities is impaired during periods of heavy rainfall. Due to the locally high water table and generally poor drainage in the vicinity of Biggs, the plant is at times impacted by storm water and unable to function properly. This concern is being addressed through current treatment plant improvements.

WASTEWATER COLLECTION SYSTEM

The wastewater collection system consists of 6" to 12" lines which make up a primarily gravity driven system which conveys sewage toward the southwest. The system has three small lift stations which serve areas on the outer edges of the system. At the City limits, all of the flow enters a pump station which lifts and transports the flow to the City treatment plant approximately 1/4 mile to the west of town.

The existing collection system is plagued with excessive flows caused by infiltration of rainwater and high groundwater into the system through cracked pipes, faulty joints and manholes. Substantial effort was made in the late 1970's and early 1980's to locate and correct these problems. However, those efforts did not significantly reduce the storm runoff and groundwater inflow within the system.

GROUNDWATER INFLUENCE

When the groundwater level is higher than the wastewater mains, the groundwater infiltrates into the mains at all cracks and openings. Where wastewater mains are in poor repair, the volume of groundwater infiltration becomes significant. The groundwater level in Biggs is very high. Department of Water Resources records show that the groundwater level (water table) varies in depth from three to five feet in the spring to four to seven feet in the fall. Infiltration of groundwater into the wastewater mains causes an overloading of the system during winter seasons with high rainfall.

after 20 years of growth are only a fraction of the total flows which are experienced during severe winter storms.

PLANNED TREATMENT PLANT IMPROVEMENT

The City is currently designing major treatment plant and collection facility improvements to eliminate existing system problems and provide reliable capacity for future growth.

Plant improvements will accomplish several objectives important to the City's future growth. First, facilities will be modified to better handle high winter sewage flows entering the system. Second, the level of treatment will be enhanced to ensure that State mandated treatment and discharge limits are consistently maintained. Third, plant capacity will be increased to 475,000 gallons per day of domestic sewage, adequate to serve a population of 3,200 persons. These improvements are anticipated for completion by the Fall of 1997.

FEES FOR NEW DEVELOPMENT

As of January 1997, the wastewater service connection fee for a single family residential use is \$1,800. This includes both the collector and the connection fees. Service connection fees for new development should be reviewed periodically to update costs. Costs should include treatment plant expansion, existing plant construction costs, lift station expansions, main over sizing, off site force mains and other wastewater system costs related to new development.

The 1997 sewage flows and those projected

4.4 STORM DRAINAGE FACILITIES



Sixth Street Bridge Crossing Hamilton Slough

There are two types of stormwater runoff that are of concern to the City. Regional runoff involves stormwater generated outside the vicinity of Biggs. Historically, such runoff posed a significant threat to the City. However, flood control facilities such as Oroville Dam have reduced the affects of regional flooding within Biggs. Further discussion of regional flooding is presented within the Public Health and Safety Element of this general plan.

The more immediate concern for the City is collection and disposal of rainfall occurring within and immediately adjacent to the City. This section considers the facilities required to dispose of this local stormwater runoff.

GOALS, POLICIES AND PROGRAMS

GOAL 4.4

Provide for the collection, transport and discharge of stormwater in a safe manner and protect people and property from flooding.

POLICY 4.4.A

Provide underground storm drainage facilities for all developed areas within the City, with the exception of portions of Hamilton Slough to be developed as a nature parkway.

POLICY 4.4.B

Restrict development in areas where significant drainage and flooding problems are known to exist until adequate drainage and/or flood control facilities can be provided.

POLICY 4.4.C

New development shall provide flood retention facilities to avoid increasing peak storm runoff in drainage channels surrounding Biggs during a 100 year storm.

POLICY 4.4.D

Work with Reclamation District 833 to resolve drainage and flooding issues which result from stormwater flows originating in the City.

POLICY 4.4.E

Assessment Districts for construction of curb and gutter improvements shall be used only when support of affected property owners is unanimous.

PROGRAM 4.4.1

Prepare a Drainage Master Plan which:

- Identifies improvements to provide protection for the 100 year storm event.
- Establishes storm drainage standards for underground conduits within all new development in the City.
- Proposes guidelines for short-term and long-term storm drainage detention basins, including basin design and maintenance strategies.
- Establishes requirements for building pad elevations in relation to curb elevations.

PROGRAM 4.4.2

Continue to encourage citizen participation in construction of curb and gutter along City streets by providing a time payment plan for the work and cost sharing by the City.

PROGRAM 4.4.3

Establish, adopt and collect appropriate drainage impact fees to be charged for new development to fund drainage facilities described in the City Drainage Master Plan.

PROGRAM 4.4.4

The Public Works Department and the Planning Department shall coordinate efforts for developing short-term and long-term flood protection strategies in consultation with Reclamation District 833.

STORMWATER MANAGEMENT SETTING

The City of Biggs is located on essentially flat terrain which once formed the historic floodplain for the Feather and Sacramento Rivers. While the City is completely outside the 100-year floodplain due to protection by Oroville Dam, Shasta Dam and numerous smaller flood control facilities, flooding potential exists due to local conditions of low elevation and flat topography.

Flood control for lands surrounding the City is provided by Reclamation District 833 (RD 833) and RD 833 channels and ditches surround the City. Runoff in the vicinity of Biggs moves in a general southwest direction, with various channels merging as water moves passed Biggs and to the southwest.

Historically, City stormwater has been conveyed to RD 833 channels for disposal. This system has worked reasonably well to protect structures from damage. However, major storm events consistently result in standing water along numerous streets and have also impacted the City's sewage collection and treatment facilities.

While City residents have been reasonably well protected against flooding, urbanization

in Biggs, Chico and Gridley has resulted in increased runoff volumes and flooding has worsened in areas to the southwest of Biggs.

Runoff from Biggs, Chico and Gridley converges some five miles to the southwest of Biggs and landowners in this area consider RD 833 to be responsible for increased flooding. In response, RD 833 has established a policy that new urban development may not increase the rate of flow in their channels during storm events.

To date, general strategies of holding stormwater in detention basins have been proposed and more specific guidelines are anticipated in the future. Addressing stormwater runoff represents a major challenge to the City of Biggs, since the Butte County Local Agency Formation Commission (LAFCo) and RD 833 will likely require that avoidance of increased flows in RD 833 channels be a condition for annexation and development of land within the City.

STORM INTENSITY AND FREQUENCY

Providing facilities for storm drainage requires that assumptions be made regarding the anticipated volume of storm runoff. A primary determinant of runoff volume is the intensity (rate of rainfall combined with duration) of storms. Typically, storms are described by the likelihood of a storm of a given intensity occurring over a period of time.

Accurate records of rainfall within Biggs have not been maintained. However, the City of Gridley has evaluated local conditions and has determined that local conditions within the Biggs/Gridley vicinity are essentially the same as the Chico vicinity. Based upon the similarity of rainfall conditions, the City of Gridley utilizes the storm intensity definitions which have been developed based upon historic rainfall records for the City of Chico. Likewise, the City of Biggs has adopted the Chico storm definitions as described below.

4. PUBLIC FACILITIES

TABLE 4.3 STORM FREQUENCY BY DURATION AND RAINFALL IN INCHES			
Duration	25 Year Storm	50 Year Storm	100 Year Storm
1 Hour	0.80"	0.88"	0.97"
6 Hour	2.07"	2.28"	2.49"
12 Hour	2.99"	3.30"	3.60"
24 Hour	4.14"	4.48"	5.00"

EXISTING DRAINAGE SYSTEM CONDITIONS

The storm water drainage system is only partially developed in the City. While new developments must install complete underground storm drains with curb and gutter improvements, the older neighborhood streets have only portions of the drainage system in place. There is no overall plan for completion of the storm drain system.

EXISTING STORM WATER COLLECTION

Underground pipelines to carry the storm runoff have been constructed at many locations in the City. However, some of the pipelines have insufficient size to carry the flow from large storms. Curb and gutter has been constructed along B Street through the City. Since 1976, the City has required construction of curb and gutter as a condition of approval of all new development, resulting in construction of hundreds of feet of drainage improvements at various locations in the city. However, many sections of older development lack these improvements.

Storm water from within Biggs flows to various open drainage ditches on the edges of the City. Generally, runoff flows north and south from a high area along B Street. In 1991, the storm drain system in the northern part of Biggs was significantly improved by construction of a major new underground drain along E Street and a pump near the railroad which carries the water to the RD 833 drain near the western City limits.

There are some neighborhoods which experience local flooding during heavy storm periods. Generally, streets have been inundated, but little flooding within living spaces of houses has occurred, in part due to sandbagging efforts of community members.

EXISTING DRAINAGE SYSTEM OUTSIDE THE CITY

Open drainage ditches managed by Reclamation District No. 833 carry all the storm water drainage from the City. Hamilton Slough meanders diagonally across the southern portion of the City near the City limits. It carries the runoff from the southern one-third of the City.

A branch of RD 833 Lateral K begins near the intersection of Second Street and Rio Bonito Road and meanders north of the City near the City limits. It carries the runoff from the northerly one-third and westerly one-third of the City.

FUTURE STORM WATER SYSTEM NEEDS

A Drainage Master Plan is needed to provide for completion of the storm drain system in the City. This would give direction to construction of improvements in the City and to future developments as the City grows.

The Drainage Master Plan should provide standards for design of storm water runoff infrastructure. The standards should include: minimum pipe sizes, drain inlet spacing, pipe materials, manhole spacing, pipeline alignment, rainfall intensity curves, rainfall return intervals and other variables. The Master Plan should establish sizes and locations of all major improvements and a fee structure for all new development.

STORM WATER SYSTEM NEEDS WITHIN THE CITY

Curbs and gutters should be constructed along all the existing city streets. In the past, these improvements were constructed by individual builders as conditions of approval for new construction. Assessment districts may also be used to fund these improvement,

but unanimous support of affected property owners is required prior to establishing new assessments.

STORM WATER SYSTEM NEEDS OUTSIDE THE CITY

As the City grows, storm water runoff will increase. Individually, the increase with each new house is very small. However, when combined, the cumulative increases may require enlargement of the drainage system outside the city.

4.5 ELECTRIC UTILITY SYSTEM FACILITIES



Biggs Gridley Electric Crew at Work

The City of Biggs has provided electrical service within the community and to surrounding users since the early 1900's. This service has provided an important source of revenue to the City as well as allowing residents to receive power at favorable rates.

GOALS, POLICIES AND PROGRAMS

GOAL 4.5

Ensure that electrical service facilities are adequate to meet the needs of current and future residents and that facilities are maintained and operated in a safe and efficient manner.

POLICY 4.5.A

Rebuild the electrical service infrastructure to 12 Kv throughout to reduce line losses and increase the power factor ratio.

4. PUBLIC FACILITIES

POLICY 4.5.B

Electric utility improvements for new development shall be constructed underground.

PROGRAM 4.5.1

Construct a new 60 Kv main feeder substation to improve efficiency and safety.

PROGRAM 4.5.2

Identify transformers that are overloaded and secondary circuits loaded above acceptable limits.

PROGRAM 4.5.3

Implement an automated phase-balance program to distribute the loads equally among the three phases of the distribution system. Phase-balance is currently achieved by manual control of equipment.

PROGRAM 4.5.4

Prepare a system protection study to determine the adequacy and co-ordination of the fuses and reclosers in the system.

PROGRAM 4.5.5

Complete the current conversion program to change the entire electrical system to 12 Kv. Complete reconductoring as part of the conversion program to a 12 Kv system.

EXISTING ELECTRIC UTILITY SYSTEM CONDITIONS

The City owns, maintains and operates the electric utility system within the Biggs. An overview study of the electric power distribution system by an electric power system engineer was conducted in 1979 to identify problems with the system and to recommend priorities for dealing with them.

Electric Power Supply

The City receives power from Northern California Power Agency (NCPA). This power is in part generated by the NCPA and in part acquired by NCPA on the open market. Power has been delivered through

Pacific Gas & Electric Company facilities at 12 Kv, although a 60 Kv line serving Biggs will be energized in December of 1997. Within the City power is distributed at 12 Kv and at 2.4/4.16 Kv. Ultimately, the entire distribution system will be upgraded to 12 Kv.

ELECTRIC SUB STATION

A substation consisting of three single phase transformers and a single spare provides the step-down from the 12 Kv PG&E feed.

ELECTRIC DISTRIBUTION SYSTEM

The distribution system is radial. Two feeders, each protected by automatic reclosing oil circuit breakers, connect the substation to the system.

ELECTRICAL DISTRIBUTION SYSTEM NEEDS

LACK OF INSTRUMENTATION

Presently, there is no way of establishing system operating parameters except by inferring situations from the primary metering data and making voltage measurements at service drops. This is not sufficient for any analytical work.

Voltage Drop

During the summer peak, voltage problems were encountered at the edge of the City farthest from the substation.

STANDARDS FOR NEW DEVELOPMENT

The City requires that new development pay the cost to construct all electric system improvements needed to serve the development. This includes both on-site and off-site improvements. Additionally, all new land development projects are required to underground electric utilities.

4.6 SOLID WASTE MANAGEMENT



Tri County Disposal truck serving Biggs

The City contracts with Tri County Disposal for solid waste and recycling collection. Solid wastes are transported to the Neal Road Landfill for disposal. Recyclable material is transported to a materials sorting facility owned by North Valley Disposal in Chico for sale to various markets.

GOALS, POLICIES AND PROGRAMS

GOAL 4.6

Ensure that solid waste disposal and recycling services are adequate to meet the needs of current and future residents of the City.

POLICY 4.6.A

Make all reasonable efforts to achieve waste stream reduction goals established by the Integrated Solid Waste Management Act of 1989.

POLICY 4.6.B

Explore programs that will assist the City in meeting state mandated solid waste reduction goals.

PROGRAM 4.6.1

Implement the City of Biggs Source Reduction and Recycling Element.

PROGRAM 4.6.2

Evaluate the cost/benefit ratio of various waste stream reduction programs.

PROGRAM 4.6.3

Investigate waste stream reduction programs in conjunction with local waste haulers and adjacent local agencies.

PROGRAM 4.6.4

Document diversion/recycling efforts undertaken by local businesses to ensure that the City receives full credit for all waste diversion efforts.

PROGRAM 4.6.5

Investigate programs for providing collection of yard wastes. Consider centralized drop-off locations and household collection routes, as well as various collection schedules.

COUNTY WIDE WASTE DISPOSAL SITING

The Neal Road Landfill provides solid waste disposal capacity for the County of Butte and its cities, including the City of Biggs. The Neal Road Landfill is located approximately 19 miles north of Biggs and one mile east of Highway 99. The landfill was opened in 1965 and was converted to a sanitary landfill in 1970. The facility is owned by the County of Butte and has been operated by private contractors since 1978. Site operation is regulated by a California Integrated Waste Management Board (CIWMB) permit and Regional Water Quality Control Board water discharge requirements, with the Butte County Department of Environmental Health acting as the Lead Enforcement Agency for the site.

The anticipated project life for the Neal Road Landfill as currently permitted and approved is nearly 20 years. This estimate assumes compaction efforts and recycling rates will be maximized.

In 1995 the Neal Road Landfill accepted

174,168 tons of waste for disposal. Of this amount, the City of Biggs contributed approximately 1,100 tons or about 0.6% of the total.

RECYCLING EFFORTS

The Integrated Waste Management Act of 1989 (Act) requires California cities and counties to divert a percentage of their waste streams from landfill facilities. The Act requires a 25% reduction in waste stream by 1995 and a 50% reduction in waste stream by the year 2000. The CIWMB certifies the local Source Reduction and Recycling Elements (SRRE) which identify how local jurisdictions will meet waste reduction goals.

Biggs successfully petitioned the CIWMB to have its 1995 target reduced to 15% diversion due to lack of funds to implement programs. Through a combination of a curbside recycling program, diversion efforts targeting white goods (washers, dryers, refrigerators, etc.), green waste (yard refuse) and reusable items the City has achieved a 16% waste stream reduction.

It should be noted that the above programs allowed the City to meet the 15% diversion requirement approved by the CIWMB. The diversion goal for year 2000 is still 50% of waste stream.

Among the programs proposed to reach the 50% diversion goal are: procurement and waste reduction policies; a drop-off program for large items; buy back centers; paper recycling program for the schools; landfill salvage of construction materials; a drop-off point for yard waste; and, participation in a proposed County composting facility.

These programs must be reviewed to determine which are most cost effective. Realistic numbers must be applied to the cost/benefit aspect of these programs to determine if the City will reach the 50% diversion goal by year 2000.

5. OPEN SPACE AND CONSERVATION



Rice fields with Biggs and the Sutter Buttes in background

- Introduction
- 5.1 Managed Resource Production
- 5.2 Biological Resources
- 5.3 Air Quality
- 5.4 Water Resources

INTRODUCTION

LEGAL BASIS AND REQUIREMENTS

This Element addresses a combination of issues which the General Plan Guidelines identify for the Open Space Element and the Conservation Element. Government Code Sections 65302(d) and 65302(e) require that the general plan include:

"A conservation element for the conservation, development, and utilization of natural resources including water and its hydraulic

force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources."

"An open-space element as provided in Article 10.5 (commencing with Government Code Section 65560)."

The general plan is required to address various open space issues, including preservation of natural resources (fish and wildlife habitat), managed production of resources (food, fiber and mineral production), outdoor recreation including areas of scenic, historic and cultural value, and open space for health and safety.

Within the City of Biggs general plan, the open space and conservation elements are combined to address required and somewhat overlapping topics of each element.

In addition, several open space and conservation issues are addressed within other elements of this general plan. Open space for health and safety (flood, fire and seismic hazards) are addressed in the Public Health and Safety Element. Recreation and historic/cultural resources are addressed within the Community Enhancement Element.

OVERVIEW

The most wide-spread natural resource in the Biggs planning area is high quality agricultural land surrounding the City. Presence of wildlife species and habitat is relatively minor due to historic agricultural uses. Waterways in the planning area are limited to the man made slough system which conveys irrigation water and disposes of storm runoff.

Additional conservation issues of concern within the City of Biggs include protecting air quality and water resources within the City.

The intent of this element is not only to satisfy the requirements of applicable Government Codes, but also to offer guidelines to potential developers on how impacts to natural

resources are addressed within Biggs.

5.1 MANAGED RESOURCE PRODUCTION



WALNUT ORCHARD ON B STREET EAST OF BIGGS

OVERVIEW

The primary managed resource production activity within the Biggs area is agriculture. Biggs was originally founded as an urban center to support the region's agriculture and farming continues to be by far the greatest land use activity in the region. Important agricultural uses include not only farmland preservation, but also the continued operation of agricultural processing plants in and around Biggs.

GOALS, POLICIES, AND PROGRAMS

GOAL 5.1

Promote and protect the continued viability of agriculture surrounding Biggs.

POLICY 5.1.A

Direct urban development to vacant lands within the City or to undeveloped land directly adjacent to urban development.

POLICY 5.1.B

Direct urban development to areas where agricultural operations are already constrained by existing non-agricultural uses.

POLICY 5.1.C

During the project review process, address the impacts of siting environmentally sensitive uses in areas where conflicts with agricultural production and processing activities may result.

POLICY 5.1.D

No mineral, gas or other natural resource extraction shall occur within the City limits of Biggs without prior review and approval of the activity by the City.

POLICY 5.1.E

Ensure that any mineral extraction activities within the Biggs planning area to conform with the State Mining and Reclamation Act (SMARA) requirements, including financial assurances and reclamation plans.

POLICY 5.1.F

Maintain buffer zones around areas of existing and planned agricultural processing activities. Do not permit sensitive uses to encroach within the buffer zones.

POLICY 5.1.G

Buffer zones surrounding agricultural processing plants may vary in width based upon existing and proposed uses, as well as whether vegetation screens are incorporated to improve buffer effectiveness.

Note: Noise related standards for locating sensitive development in the vicinity of processing plants are contained in the Noise Element.

Program 5.1.1

Negotiate with the County to adopt a City/County "Area of Concern" Joint Powers Agreement to maintain minimum parcel sizes adjacent to the City. Also consider standard mitigation measures to reduce impacts of development on agricultural activities.

AGRICULTURAL RESOURCES

Land used for agricultural production accounts for most of the open space found in the Biggs area. Outside the City the land is

intensively cultivated with orchard, rice and row crops. Most of area is considered prime agricultural land because of its suitability for growth of agricultural products.

Practices commonly used in agricultural production are often found to be incompatible with urban residential settings. Land cultivation produces noise and dust. Other agricultural practices such as burning and spraying may result in conditions which conflict with residential land uses. Because of the inherent conflicts between agricultural and urban uses, new urban development should be directed to vacant land within the City or to areas immediately outside existing development.

Preservation of agricultural land is necessary to assure continued crop production and protect the economic base for the community. In-fill projects should be encouraged to use the area within the City to its fullest extent and leapfrog development near the City should be discouraged.

Measures should also be taken to protect the agricultural land uses which continue adjacent to residential land uses at the City boundaries.

SOIL CHARACTERISTICS

Soils in the vicinity of Biggs are part of the Great Valley Fan Deposits. They are of alluvial origin and are rated excellent for agricultural production. High quality soils are one of the prime resources of the Biggs area.

BIGGS SOIL DESCRIPTIONS

The U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) evaluates and maps farmland soils. The NRCS is in the process of mapping Butte County farmlands and the following descriptions are based upon the preliminary findings of this effort. The locations of the soil types described below are depicted on *Figure 5.1 - Soil Classifications within Biggs*.

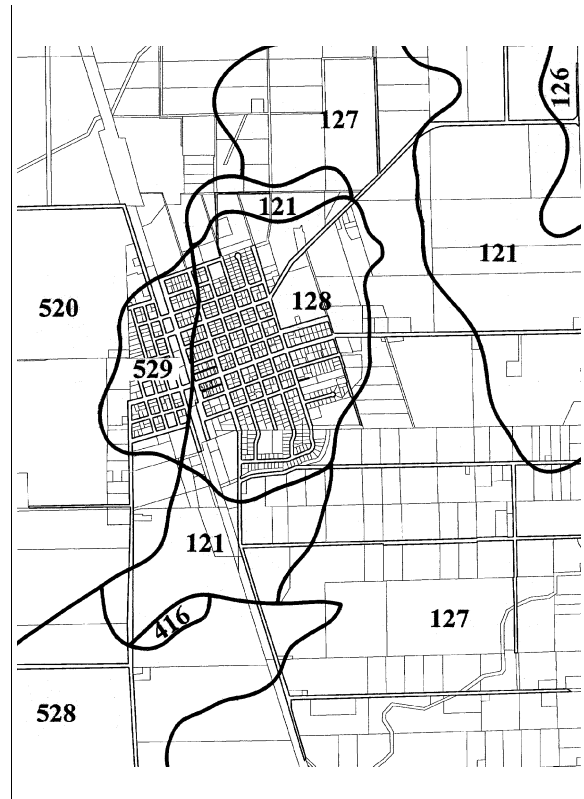


FIGURE 5.1 - SOIL TYPES WITHIN BIGGS

SOURCE: U.S.D.A. NATURAL RESOURCE CONSERVATION SERVICE

121 - Boga-Loemstone Complex, 0 to 2 percent slope

Located north of the City limits, this soil is characterized as a very deep, moderately well drained soil. Typical profile includes strata of loam, clay loam and densely compacted loam. Depth to hardpan is typically 40 to 80 inches, with high water table generally 30 to 60 inches deep. This soil type has a low shrink-swell potential, with water erosion potential slight and wind erosion potential moderate in areas of bare soil.

127 - Gridley loam, 0 to 2 percent slope

Located to the north, east and south east of the City, this soil is characterized as a moderately deep, moderately well drained soil. Typical profile includes strata of loam, clay loam, clay and cemented duripan. Depth to hardpan is typically 20 to 40 inches with high water table 20 to 40 inches deep. This soil type has a high shrink-swell potential, and

both wind and water related erosion potential is slight.

128 - Gridley-Urbanland Complex, 0 to 2 percent slope

Comprising the eastern 80 percent of the City, this soil is characterized as a moderately deep, moderately well drained soil. Typical profile includes strata of loam, clay loam, clay and cemented duripan. Depth to hardpan is typically 20 to 40 inches. The high water table may be perched above duripan. This soil type has a high shrink-swell potential, and wind and water erosion potential is slight.

520 - Esquon-Neerdobe Complex, 0 to 1 percent slope

Located to the west of the City, this soil is characterized as a deep, somewhat poorly drained soil. Typical profile includes strata of silty clay, moderately cemented clay loam and strongly cemented duripan. Depth to hardpan is 40 to 60 inches, with frequent ponding from December through March. This soil type has a high shrink-swell potential, and both wind and water related erosion potential is slight.

529 - Esquon-Neerdobe-Urbanland Complex, 0 to 1 percent slope

Comprising the western 20 percent of the City, this soil is characterized as a deep, somewhat poorly drained soil. Typical profile includes strata of silty clay, moderately cemented clay loam and strongly cemented duripan. Depth to hardpan is 40 to 60 inches, with frequent ponding from December through March. This soil type has a high shrink-swell potential, and both wind and water related erosion potential is slight.

SOIL SUMMARY

The soils to the north, east and south of the City are generally deeper loam in character and well drained. These soils are well suited for orchard production of walnuts, prunes and peaches. By contrast, the majority of the City and the land to the west of Biggs is heavier, less well drained and is more suitable for rice production.

Another aspect of soil type is stability for construction as represented by soil shrink-swell potential. The higher shrink-swell potential of the land to the east requires more thorough site preparation to avoid settling after construction is complete. This issue is discussed further within the Public Health and Safety Element.

MINERAL RESOURCES

The California Department of Conservation, Division of Mines and Geology maps and evaluates mineral resources in the State. Evaluations focus on regions of high production/consumption and areas of rapid urbanization. Biggs is in the southern portion of a production/consumption region which extends north, and both the production/consumption and the rate of urbanization are low. Therefore, classification of local mineral resources has not been a high priority and resource information is limited.

Biggs is located on two primary geologic formations: Riverbank and Modesto, both of the Pleistocene era. The Modesto formation to the west of Biggs has the potential to produce commercially valuable clay, while the Riverbank formation to the east has the potential to produce commercially valuable sand and gravel. Commercial mining of these resources would require large scale operations and significant initial investment.

Mining within Biggs would be subject to approval by the City, based upon the benefits and impacts to the City. Mining may occur on surrounding County land, but a Use Permit and Reclamation Plan would be required. The City would be involved in the review of a Use Permit for mining in the vicinity of Biggs.

Given the commitment to agriculture around Biggs, the lack of known commercial grade mineral deposits, impacts associated with large scale mining and the investment required to initiate operations, it is not likely that mining will be a significant industry within the planning area of the City of Biggs.

5.2 BIOLOGICAL RESOURCES



HAMILTON SLOUGH VEGETATION

OVERVIEW

This section addresses wildlife and habitat issues in the Biggs planning area. Past agricultural activities have nearly eliminated resources of this type. However, remnants of oak woodlands and riparian habitats exist along Hamilton Slough and the potential for protected migratory species (primarily birds) to visit the planning area will always exist.

GOALS, POLICIES, AND PROGRAMS

GOAL 5.2

Minimize impacts to wildlife and wildlife habitat as new development occurs within Biggs.

POLICY 5.2.A

Apply mitigation measures to development projects to minimize impacts to biological resources during and after construction.

POLICY 5.2.B

Consider opportunities for habitat preservation and enhancement in conjunction with public facility projects, particularly storm drainage facilities.

POLICY 5.2.C

Applicants for new development proposals shall be responsible for costs related to determining the potential for occurrence of protected plant and wildlife species within the proposed project area. Determination of the degree of field investigation required shall be made by City staff.

POLICY 5.2.D

If the presence of protected species is determined to be likely, the project applicant shall be responsible for all costs associated with investigating species presence and preparation of any required mitigation plans.

POLICY 5.2.E

Promote the establishment of an open space reserve along Hamilton Slough in areas southeast and south of the current City limits.

PROGRAM 5.2.1

Prepare a conceptual diagram for development of a linear parkway along Hamilton Slough. Include components of habitat preservation and public recreation, as well as maintaining functions of stormwater and irrigation water transport.

LEGAL REQUIREMENTS FOR WILDLIFE HABITAT MANAGEMENT

As a local agency reviewing and approving projects, the California Environmental Quality Act requires that the City of Biggs consider the environmental impacts resulting from approval of proposed development projects. In the case of biological resources, such impact analysis focuses on species and habitat types which are designated for protection under state and federal programs.

WILDLIFE AND HABITAT OCCURRENCE

During the preparation of this general plan, a search of the California Department of Fish and Game, Natural Heritage Division Natural Diversity Data Base (NDDDB) was conducted. The detailed results of this data base search are contained within the Technical Appendix of this general plan.

NDDDB records are organized by geographic areas consistent with the U.S.G.S. quad maps. A search of the NDDDB for the Biggs quad identified records of the occurrence of eight species or communities of concern. The closest occurrence was more than 2.5 miles northeast of Biggs where the Thermalito Afterbay provides habitat for water birds and wintering habitat for bald eagles.

Other nearby habitat areas include the Richvale vernal pools four miles to the north, the Oroville Wildlife Area along the Feather River 3.5 miles to the east, and the Gray Lodge Wildlife Area 6 miles to the south. Protected species have been identified in no other locations in or around Biggs.

The occurrences identified within the NDDDB are located primarily within the Feather River aquatic and riparian habitats. Two species and one plant community are noted in the Richvale vernal pools and one species is noted in the vicinity of the Oroville Airport.

There is no evidence of any protected species occurring within the City of Biggs planning area. However, since detailed biological evaluations have generally not been conducted in the vicinity of Biggs, the lack of identified occurrences is not proof of the absence of protected species.

Therefore, future urban development sites may require review by a qualified individual, to be approved by the City, to determine if habitat is present. If potential habitat is found, a biological field survey may be required to determine whether protected plant or animal species are present.

MANAGEMENT OF DRAINAGE CHANNELS

Wildlife habitat exists primarily along portions of the drainage ways adjacent to the City. In particular, the section of Hamilton Slough near the crossing of First Street has a substantially natural oak woodland character adjacent to the Slough.

Channel management and incorporation of channels in future development presents a significant challenge to the City. While drainage and irrigation channels present an opportunity to restore segments of natural habitat, the primary function of such channels is to convey irrigation water and storm runoff. As such, vegetation associated with habitat may conflict with the primary use of the channels.

Accommodation of multiple uses of habitat preservation, recreation and water conveyance will require oversized channels. Such channels are costly and will require innovative approaches for successful implementation.

The local flood control and irrigation agency, Reclamation District (RD) 833, has also expressed concerns regarding development adjacent to their channels. Concerns center on the difficulty of maintaining channels in an urban setting (primarily because of increased littering and refuse dumping in channels) and safety issues of children entering the channels and being trapped by steep channel sides and moving water. RD 833 has expressed a preference for undergrounding channels in the vicinity of urban development.

Future development projects adjacent to RD 833 channels will be required to address the relationship of the project to the channel and how the issues of channel management, maintenance and safety will be addressed.

HAMILTON SLOUGH PARKWAY

The primary opportunity for a linear parkway in Biggs is Hamilton Slough. The existing natural vegetation along the Slough is a valuable resource and the location of the Slough outside but near the City limits is ideal to offer a passive recreation trail to residents of Biggs. Such recreational opportunities are limited in the vicinity of Biggs and would contribute significantly to the overall quality of the community.

The general area of Hamilton Slough which currently under consideration as a Parkway extends from B Street to Sixth Street and is shown within section 1.3 - *Special Planning Districts* (page 1-18) of the Land Use Element. Specific locations of Parkway boundaries will require further consideration following adoption of this general plan. Considerations in determining appropriate Parkway boundaries include the amount of land required to accommodate both flood control and recreational uses, the extent of existing habitat resources which merit preservation, and the impacts to property owners adjacent to the Slough.

5.3 AIR QUALITY

OVERVIEW

Protecting air quality is a complex task which

must consider local land uses and activities which generate air pollution, as well as pollutants originating outside the region which are transported by weather and wind patterns. The most significant impacts to air quality in Biggs result from vehicular activity and have led to the creation of the Indirect Source Review Guidelines discussed in this section.

GOALS, POLICIES, AND PROGRAMS

GOAL 5.3

Maintain and protect air quality within the City of Biggs at acceptable levels as defined by state and federal standards.

POLICY 5.3.A

Require new development projects to incorporate appropriate measures to reduce impacts to air quality.

POLICY 5.3.B

Avoid siting sensitive land uses in the vicinity of agricultural processing, industrial or other uses where odors or emissions could adversely affect the sensitive use.

POLICY 5.3.C

Through the project review process, minimize adverse affects on the community of odor and emissions generated by industrial uses.

POLICY 5.3.D

Cooperate with the Butte County Air Quality Management District in efforts to maintain air quality standards and to minimize air quality impacts associated with new development.

PROGRAM 5.3.1

Review the Butte County Indirect Source Review Guidelines and adopt appropriate measures for the review of development projects in the City of Biggs.

AIR QUALITY REGULATORY AUTHORITY

The federal Clean Air Act, adopted in 1970 and amended twice thereafter, established the framework for modern air pollution

control. The Act directs the Environmental Protection Agency (EPA) to establish ambient air quality standards for six pollutants: ozone, carbon monoxide, lead, nitrogen dioxide, particulate matter (PM10) and sulfur dioxide. Acceptable levels for these pollutants are adopted as the National Ambient Air Quality Standards (NAAQS).

The federal Clean Air Act requires states to submit a State Implementation Plan (SIP) for areas that exceed the NAAQS (such areas are referred to as "non-attainment areas"). Failure to comply with requirements for preparing the SIP can result in denial of federal funding and permits for such improvements as highway construction and sewage treatment plants.

In addition, the California Clean Air Act (1988) authorizes the California Air Resources Board to require local and regional air pollution control districts to prepare Air Quality Management Plans in areas that are not attaining one or more of the State ambient air quality standards for ozone, carbon monoxide, sulfur dioxide or nitrogen dioxide.

The California standards for pollutants are more stringent than federal standards and Air Quality Management Plans prepared at the District level are incorporated within the SIP for the broader air basin in which the local district is situated.

LOCAL AIR QUALITY MANAGEMENT AUTHORITY

The City of Biggs is located within a region identified as the Northern Sacramento Valley Air Basin (NSVAB). The NSVAB is further divided into local air districts which are charged with the responsibility implementing air quality programs. The local air quality district for the area surrounding and including Biggs is the Butte County Air Quality Management District (BCAQMD).

Within the NSVAB, the primary source of air pollution is the motor vehicle. In response to this source of pollutants, the state legislature adopted the California Clean Air Act which requires local air districts to develop measures to reduce emissions from mobile sources. The BCAQMD has adopted the Indirect Source Review Guidelines (ISR Guidelines) to reduce emissions resulting from vehicular activity and to identify mitigation guidelines for new development projects which affect air quality.

AIR QUALITY STANDARDS ATTAINMENT STATUS FOR BUTTE COUNTY

Air quality standards are set at both the state and federal levels of government. When the pollutants within an area are below the allowed standards, that area is considered to be in attainment with the standards.

When the established standards are exceeded in a given area, that area is referred to as non-attainment for any pollutants which exceed the standards. Non-attainment status also has varying levels based upon how severely the standards are exceeded and, in some cases, the source of the pollutant which causes the standards to be exceeded.

TABLE 5.1 BUTTE COUNTY AIR QUALITY ATTAINMENT STATUS		
Pollutant	Federal	State
Ozone	Transitional Nonattainment ¹	Moderate Nonattainment
Carbon Monoxide	Moderate Nonattainment ²	Attainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Inhalable Particulate (PM10)	Attainment	Non- Attainment

¹ The Butte County Air Quality Management District and the Butte County Association of Governments submitted a redesignation request to the Environmental Protection Agency in April, 1996 and expects the request for redesignation to "attainment" to be approved in 1997.

² The California Air Resources Board on behalf of the Butte County Air Quality Management District submitted a redesignation request to the Environmental Protection Agency in April, 1996 and expects the request for redesignation to "attainment" to be approved in 1997.

INDIRECT SOURCE REVIEW GUIDELINES

Development and implementation of the Indirect Source Review Guidelines (ISR Guidelines) fulfills the commitment made by the NSVAB Air Districts in their 1994 Air Quality Attainment Plan.

The Guidelines were developed and adopted under requirements of the California Clean Air Act which requires that Attainment Plans be adopted for areas which exceed State air quality standards.

INDIRECT SOURCES DEFINED

The California Air Resources Board has defined indirect sources of air pollution as any land use which generates or attracts vehicular activity which results in pollutant emissions for which there is a state ambient air quality standard.

ISR GUIDELINES APPLIED IN BUTTE COUNTY

Butte County is non-attainment (exceeds the allowed standards) for three types of air pollutants, as noted in *Table 5.1*. The ISR Guidelines establish thresholds for these pollutants and identify mitigation measures to be applied to new development projects to reduce the levels of the pollutants which exceed allowed standards.

The ISR Guidelines are structured to assist the local agency in quantifying the air quality impacts of proposed projects and to apply mitigation measures appropriate to the level of impact of the project. Specifically, the ISR Guidelines provide a foundation for the local agency to conduct the project impact review and mitigation process required under the California Environmental Quality Act.

The complete ISR Guidelines as adopted by the Butte County Air Quality Management District are contained within the appendices of this general plan.

5.4 WATER RESOURCES

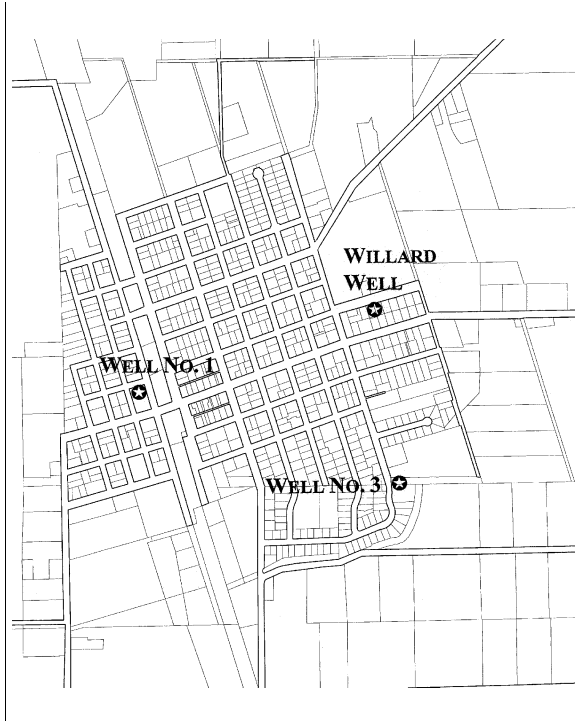


FIGURE 5.2 - WELL LOCATIONS

OVERVIEW

There are two primary water resource concerns in the City of Biggs. The first is ensuring that local supplies (groundwater) are ample and of high quality. The second concern is that water discharged to drainage channels is of acceptable quality and does not reduce water quality downstream from Biggs.

Additional discussion of water supplies and domestic water facilities is presented in the Public Facilities Element of this general plan.

GOALS, POLICIES, AND PROGRAMS

GOAL 5.4

Protect the quantity and quality of community water supplies and avoid degradation of water quality downstream from Biggs.

POLICY 5.4.A

Ensure, to the maximum extent feasible, that groundwater resources in the vicinity of Biggs

are protected from contamination by local land uses and activities.

POLICY 5.4.B

Ensure that water quality impacts resulting from discharges into drainage channels are minimized.

POLICY 5.4.C

Avoid the wasteful use of water within existing and future urban uses.

PROGRAM 5.4.1

Require new development to incorporate the latest appropriate technology within construction projects to avoid the wasteful use of water resources.

PROGRAM 5.4.2

Employ technology at the City of Biggs wastewater treatment plant that minimizes water quality impacts within discharge channels.

PROGRAM 5.4.3

Require applicants for new development projects to identify specific measures for minimizing project related erosion and resulting siltation of drainage channels.

PROGRAM 5.4.4

Ensure that all City wells are operated and maintained properly in order to avoid contamination of groundwater supplies by transport of pollutants along well shafts.

PROGRAM 5.4.5

Require wells located on land annexed to the City and served by City water service to be properly abandoned in accordance with Butte County Health Department guidelines.

PROGRAM 5.4.6

Participate in local and regional discussions regarding whether exportation of local water supplies to agencies or jurisdictions outside of the northern Sacramento Valley should be allowed or discouraged.

PROGRAM 5.4.7

Promote the use of water conserving

landscape strategies, such as drip irrigation and drought tolerant plantings.

PROGRAM 5.4.8

Review City Standards for drainage structures and, if determined appropriate, adopt requirements for grease and sediment traps for roads and parking lots to improve water quality of urban runoff.

PROGRAM 5.4.9

Investigate and implement as determined appropriate programs to supply information, services and equipment to homeowners and local businesses to conserve water resources within the City.

GROUNDWATER PROTECTION

The City of Biggs relies on three wells located within the incorporated City limits for its domestic water supply. Water drawn from two of these wells, Well No. 1 and Well No. 3, is of a high quality. The third well, Willard Well, meets state water quality standards but the presence of hydrogen sulfide results in taste and odor problems that make this water source less desirable. As of 1997, the City is in the process of configuring the water supply system to rely primarily on Wells No. 1 and No. 3 and for the Willard Well to operate only in emergency conditions where greater water capacity is required.

GROUNDWATER QUALITY

The quality of groundwater is affected by activities which occur outside the City limits and therefore is beyond the City's ability to fully control. However, there are two areas where the City has opportunity to actively address groundwater quality.

The City's primary method for protecting groundwater quality is the proper maintenance of active wells and the proper abandonment of historic wells. Proper well procedures can protect groundwater by ensuring that contaminants do not travel along well shafts to underground aquifers.

The City can also protect water quality through the land use review and approval

process. While it is anticipated that new land uses will be served by the City wastewater treatment plant, it may be advantageous to allow some uses to proceed with alternative treatment methods. In such cases the City shall carefully scrutinize the potential for contamination of groundwater which could result with alternative wastewater disposal methods. Such scrutiny shall also apply to any projects adjacent to Biggs on County lands through the City's role as an involved agency in the environmental review process.

GROUNDWATER QUANTITY

The second aspect to ensuring an adequate water supply within Biggs is to protect groundwater aquifers from excessive withdrawals. Since aquifers may spread over large areas, and the boundaries of a given aquifer are difficult to define, it is possible for water pumping activities in areas outside the City to affect the volume of water available to Biggs.

The City will promote the preservation of groundwater supplies through a combination of prudent use of water within the City and the moderation of groundwater withdrawals in the vicinity of Biggs.

Measures to promote efficient use of water in the City shall be imposed on all new development within the City. These shall include water conserving fixtures within new residential development and review of construction plans for commercial and industrial uses to ensure that appropriate measures are implemented.

The City is also concerned with extraction of water from the aquifer serving Biggs by users outside of the community. The underground aquifer is a regional resource which must serve many interests. However, development of major water intensive uses in the vicinity of Biggs which rely on groundwater would concern the City. Additionally, the City does not support the extraction and exportation of water to areas outside of the northern Sacramento Valley region.

The issue of whether water should be transferred from local areas to help meet the needs of other regions is of concern to the City. The availability of adequate local water supplies is critical to the region's agricultural and urban land uses. Until the City has a more complete understanding of the impacts of water transfers, this issue shall remain a concern.

In the interim, the City shall further investigate potential impacts of transfers and shall participate in the dialogue over appropriate uses of regional water resources.

SURFACE WATER QUALITY

Because the City relies on groundwater as a domestic water source, the primary concern over surface water quality relates releases of treated wastewater and impacts to water quality in downstream waterways.

Surface water quality is regulated by the Central Valley Regional Water Quality Control Board, Region 5 (CVRWQCB). The CVRWQCB establishes water quality standards for surface water discharge within its Water Quality Control Plan (Basin Plan), Sacramento River Basin, 1996.

The City's primary concern related to the quality of discharged surface water is the current wastewater treatment facility which releases treated water into Reclamation District 833 channels. This discharge method requires that the City operate under a CVRWQCB discharge permit and the standards for the treated wastewater are quite rigorous. The City is currently upgrading its wastewater treatment plant and the issue of maintaining water quality standards, as well as other options for discharge of treated wastewater will be considered.

Another area where the City will seek to minimize impacts to surface water is the regulation of construction practices. Construction activities, particularly site grading, have the potential to cause erosion

which can lead to siltation of waterways. It is the City's policy that new development projects shall include specific measures within development and construction plans which define how site erosion will be minimized.

6. PUBLIC HEALTH AND SAFETY



Butte County Fire Department, Biggs Fire Station

- Introduction
- 6.1 Emergency Preparedness
- 6.2 Flood Hazard
- 6.3 Fire Protection
- 6.4 Police Protection
- 6.5 Geologic Hazards
- 6.6 Hazardous Materials and Waste Management
- 6.7 Rail Service Related Hazards

INTRODUCTION

LEGAL BASIS AND REQUIREMENTS

California state law (Government Code Section 65302 (g)) requires that a safety element be included within a general plan for:

"the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence and other geologic hazards known to the legislative body; flooding; wild land and urban fires."

In addition to these concerns, this element also addresses the issues of hazardous waste management, fire and police services. This section has been prepared in conformance with state law requirements.

6.1 EMERGENCY PREPAREDNESS

Guidance for emergency preparedness within Butte County as a whole and including the City of Biggs is provided within the Butte County Emergency Operations Plan (EOP).



Flooding Southwest of Biggs, January, 1995

GOALS, POLICIES AND PROGRAMS

GOAL 6.1

To ensure that the City and involved local agencies are able to effectively respond to emergency situations which may threaten the people or property of the Biggs community.

POLICY 6.1.A

The City shall continue to participate in emergency preparedness planning with Butte County.

PROGRAM 6.1.1

The City shall review procedures for local implementation of the County EOP and undertake to educate the community on the need for emergency preparedness.

PROGRAM 6.1.2

The City shall pursue adoption of the State of California Standardized Emergency Management System (SEMS).

BUTTE COUNTY EMERGENCY OPERATIONS PLAN

The County EOP establishes procedures for responding various emergency situations, including:

- Regional flooding
- Nuclear power plant incident
- Volcanic activity
- Tsunami/seiche waves
- Hazardous materials incident
- Nuclear defense emergency
- Dam failure
- Approaching wildland fire
- Seismic activity

COORDINATION OF EMERGENCY RESPONSE EFFORTS

The Butte County Emergency Operations Plan (EOP) provides response guidelines for various potential emergencies. Coordination of response activities is provided by a local Incident Commander. The Incident Commander is established by statutory

authority to act and the ability to pay to mitigate the emergency. Usually an officer of the Butte County Sheriff's Department will be the Incident Commander on emergencies within and around Biggs. In incidents where the Incident Command authority is shared, Incident Command is unified among those agencies with command authority.

EVACUATION ROUTES

Due to the variety of threats which could require evacuation, standard evacuation routes have not been designated within Butte County. Rather, the Incident Commander determines the appropriate evacuation route based upon the nature of the threat and the location of the threat.

SEMS

The Standardized Emergency Management System (SEMS) was established by the State in response to the Oakland Hills fires and in recognition that emergency response should be better coordinated. SEMS serves as an umbrella emergency management system which coordinates the response of various agencies and jurisdictions. Participation in SEMS is required to assure reimbursement of expenses resulting from a State declared emergency. SEMS is the standard throughout the State of California.

FLOODS OF 1997

In January of 1997 runoff from the watershed above Lake Oroville resulted in a dramatic rise in lake levels and it appeared water could overtop the dam.

A voluntary evacuation was ordered for the City of Biggs on January 2. Notices were delivered to homes within Biggs by S.T.A.R.S. volunteers and community members. City Hall served as a center for communication, providing information to residents as it became available.

In retrospect, only two aspects of this exercise require improvement. First,

information from DWR and OES was slow in reaching the City. Second, no evacuation route was given on the notice to evacuate. Overall, the City and community volunteers worked effectively. However, it would appear prudent for the City to review its procedures for assisting with local implementation of the Butte County Emergency Operation Plan.

Participation in SEMS, as described above, will improve coordination of efforts and allow more effective communication among agencies and jurisdictions affected by emergency situations.

6.2 FLOOD HAZARDS



Flooding on F Street, west of Second Street

The drainage facilities which provide local flood control are discussed in detail within the Public Facilities section of the general plan. Goals and policies of this section address the overall issues of flood related hazards.

The role of Reclamation District 833 (RD 833) is of special significance to flood control in and around Biggs. RD 833 channels surround the City and serve the dual purposes of providing irrigation water to farmers and conveying storm runoff away from the City. Increases in development within the region, coupled with the nearly flat terrain, have resulted in flooding "downstream" from Biggs to the southwest. Avoiding increases in storm runoff entering the RD 833 channels has become an important concern due to the increase in downstream flooding.

GOALS, POLICIES AND PROGRAMS

GOAL 6.2

Minimize the risk of personal injury and property damage resulting from flooding.

POLICY 6.2.A

Develop flood control strategies and improvement plans for the City of Biggs in

coordination with RD 833.

POLICY 6.2.B

New development shall not be approved in areas which are subject to flooding without prior review and approval of plans for improvements which provide a minimum flood protection level equal to the 100 year occurrence storm event.

POLICY 6.2.C

Development of structures must be in compliance with FEMA standards. All 100 year flood hazards must be completely mitigated through proper design.

POLICY 6.2.D

All new residential development shall be constructed on pads which are at least six inches above the top of curb of the street on which the development fronts.

POLICY 6.2.E

New development projects shall be designed to avoid increases in peak storm runoff levels entering RD 833 channels.

PROGRAM 6.2.1

Encourage the California Department of Water Resources to determine the maximum flow capacity for the Feather River and to identify portions of the Feather River levees, particularly in the vicinity of Hazelbush Levee, which are subject to failure or overtopping during periods of high water flow.

LOCAL FLOODING

The entire City of Biggs is located outside of the 100 year flood zone as defined by Federal Emergency Management Agency (FEMA), due to protection provided by Oroville Dam. However, localized flooding occurs in and around Biggs during storms of less than 100 year proportions.

An area of local flooding is located on the north ends of Third Street and Second Street.

This area of flooding encompasses some ten residential lots. The high water level reaches an elevation of about eight or ten inches above the street curb.

Protection against local flooding is addressed specifically within the Public Facilities section under the topic of Storm Drainage Facilities.

REGIONAL FLOODING

Two primary types of regional flooding have the potential to threaten the City of Biggs. These are the failure of a dam located "upstream" from the City and the failure or overtopping of the Feather River levees.

DAM FAILURE

Several dams located above Biggs are also located above Oroville Dam and, in the event of failure of these dams, floodwater would be contained in Lake Oroville.

Four dams are located such that failure might create flooding within Biggs. These are the Oroville Dam itself and three structures which create the Thermalito complex, the Thermalito Diversion Dam, the Thermalito Forebay Dam, and the Thermalito Afterbay Dam. Capacities and drainage areas of these structures are identified in *Table 6.1 - Major Dam Facilities*.

Magalia Dam, located along Little Chico Creek, has been identified as at risk to failure in the event of significant seismic activity. However, in the event of such failure floodwater would be slowed by the Little Chico Creek canyon and would be conveyed to the Sacramento River. No flooding in the vicinity of Biggs would be anticipated from failure of Magalia Dam.

TABLE 6.1
MAJOR DAM FACILITIES

Dam	Capacity	Drainage Area
Oroville Dam	3,500,000 Ac. Ft.	3,607 Sq. Mi.
Thermalito Diversion Dam	13,000 Ac. Ft.	3,640 Sq. Mi. ¹
Thermalito Forebay Dam	11,768 Ac. Ft.	3.6 Sq. Mi.
Thermalito Afterbay Dam	57,000 Ac. Ft.	13.3 Sq. Mi.

¹ 3,607 square miles of the Thermalito Diversion Dam drainage area pass through Oroville Dam.

A primary cause of dam failure is exposure to seismic activity. The California Department of Water Resources has identified dams which are considered safety hazards due to potential damage resulting from earthquakes. Oroville Dam and the Thermalito complex are not considered at risk to seismic activity.

Thermalito Complex

The Thermalito complex is a series of dams located below Oroville Dam which provide irrigation water and produce hydro-electric power. Flows into the Thermalito complex are limited to not more than 15,000 cubic feet per second (CFS). Due to the control of water entering this series of dams and the additional capacity available as freeboard (unused storage capacity) within the Forebay and Afterbay, these dams do not represent a likely threat during reasonably predictable storm events.

While the Thermalito complex is located above Biggs and drains generally toward the City, it is anticipated by the Office of Emergency Services (OES) that flows from a major failure of these dams would be contained within the Feather River and

existing drainage and irrigation channels. Due to the shallow depth of Thermalito Forebay and Afterbay, dam failure inundation maps are not required by the OES.

Oroville Dam

It is not anticipated that any reasonably predicted seismic event would result in a catastrophic failure of Oroville Dam. In the event of a major failure of the Dam, Biggs would be evacuated. No reasonable precautions can be made to protect property against such a failure of Oroville Dam.

The OES has identified the inundation zone resulting from failure of Oroville Dam. The inundation zone assumes that the dam is completely eliminated. Under such circumstances flood water would reach Biggs approximately two hours after time of release and would reach a depth of four feet approximately seven hours after time of release. In reality, any failure of the dam is highly unlikely and the possibility of complete removal of the dam is extremely remote.

Levee Failure/Overtopping

Both the Sacramento and the Feather Rivers pass through the southwestern portion of Butte County. Failure or overtopping of the levees along the Feather River could result in minor to severe flooding within Biggs depending on the type of levee failure and/or the volume of flow present at the time of failure.

The segment of the Feather River from which overflows would affect Biggs falls within DWR Management Area 7. DWR levees are inspected twice annually and receive regular maintenance. To date, no significant deficiencies have been identified within Management Area 7. DWR has estimated the channel capacity in Management Area 7 to be 210,000 CFS.

Due to channel limitations of the Feather River near the Yuba River and below Bear

Creek, the maximum allowed release criteria for Oroville Dam is 160,000 CFS. Structurally, the release gates can allow controlled releases of up to 250,000 CFS. Emergency spillway design capacity of Oroville Dam would allow up to an additional 629,000 CFS of uncontrolled release.

The Corps has estimated the capacity of the Feather River in Management Area 7 to be 210,000 CFS. DWR has estimated that a 200 year storm event would require releases of 170,000 CFS from Oroville Dam and that a 500 year storm event would require releases of 250,000 CFS. In the event that conditions require unusually high release rates (in excess of 150,000 CFS) DWR would notify local jurisdictions and emergency response agencies. Additionally, flows would be increased incrementally to allow for evacuation if determined necessary.

In February of 1986, exceptional runoff conditions required unusually large releases of water into the Feather River. Following the 1986 floods, the U.S. Army Corps of Engineers (Corps) conducted an evaluation of Feather River levees. No weaknesses were identified in the section of the river which could impact Biggs.

In early January of 1997 an unusually warm storm series resulted in exceptional rainfall/runoff in the Sierra Nevada immediately after a series of heavy snow storms. During the six day period of the storm as much as 40 inches of rain fell within the Sierra Nevada.

For the City of Biggs, the greatest threat of the 1997 storm was the potential for overtopping Oroville Dam. At the peak of the storm inflows to Lake Oroville were 358,000 CFS and the lake level was rising 1.5 feet in elevation per hour. The maximum lake level was 13 feet below the emergency spillway elevation. If heavy rainfall had continued an additional six to eight hours, release rates from Oroville Dam would have been much

greater than were required and Feather River levees above Biggs might have been overtopped, resulting in flooding of Biggs.

Lake Oroville Operations

Immediately prior to the January 1, 1997 storm, DWR began releasing water and created an additional 200,000 acre feet storage capacity in Lake Oroville. These releases likely averted a catastrophe of much greater proportions for Butte County.

HAZELBUSH LEVEE

The Hazelbush Levee is the western levee of the Feather River below the Thermalito Afterbay spillway. This levee is located where the Feather turns from southwest to the south and immediately downstream from this area the Feather River channel is constrained by rock piles from gold rush days. The combination of the channel turn and channel blockage, along with the location above Biggs, represents a significant threat to Biggs.

A proposal that has been discussed within the City is the reopening of passages beneath the Union Pacific Railroad tracks to allow water to flow to the west in the event of a levee failure above Biggs. Originally built on trestles, the base of the rail has been filled and now serves as a levee. Unfortunately, in the event of a levee breach northeast Biggs, flood water would flow in a generally southwest direction and upon meeting the rail tracks would be forced toward Biggs. Under such conditions, flooding in Biggs would be significantly worse than if water were allowed to continue its southwesterly flow.

Opening passages beneath the rail lines would be a costly endeavor that is beyond the ability of the City, both financially and jurisdictionally, to undertake. However, the City supports investigation of this option for reducing potentially devastating flooding which could occur if Feather River levees to the northeast of Biggs should fail.

SACRAMENTO RIVER

Overtopping of Sacramento River levees is not a significant concern to Biggs due to the general topography of the region. Levee failure or overtopping of the Sacramento River in areas above Biggs would be directed to the Butte Sinks area and would not directly affect the City.

6.3 FIRE PROTECTION



Butte County Fire Department, Biggs Fire Station

The City of Biggs is vulnerable to a variety of fire types. Reducing the potential for fire related injuries and property losses involves both the prevention of fires through community education and enforcement of building and safety codes, and the ability to respond to fire related emergencies once they occur. Fire protection services within the City of Biggs are provided through a contract with the Butte County Fire Department.

GOALS, POLICIES AND PROGRAMS

GOAL 6.3

Protect people and property within the City of Biggs against fire related loss and damage.

POLICY 6.3.A

At a minimum, maintain current levels of service for fire protection by continuing to require development to provide and/or fund fire protection facilities, personnel, and operations and maintenance.

POLICY 6.3.B

Require all new development to design public facility improvements to ensure that water volume and hydrant spacing are adequate to support efficient and effective fire suppression.

POLICY 6.3.C

Biggs shall strive to maintain, at a minimum, the City's current Insurance Service Office (ISO) rating of four (4).

PROGRAM 6.3.1

Continue to enforce the requirements of Public Resources Code Sections 4290 & 4291 on all development projects. This includes, but is not limited to the following:

- Maintain roofs of structures free of vegetative growth and debris
- Remove any portion of trees growing within ten (10) feet of chimney/stovepipe outlets
- Maintain screens over chimney/stovepipe outlets or other devices that burn any solid or liquid fuel

PROGRAM 6.3.2

In conjunction with Program 4.2.2, develop and adopt standards for fire suppression facilities, including water supply and distribution system standards, and fire hydrant spacing.

PROGRAM 6.3.3

Review the desirability of requiring automatic fire protection sprinklers within new residential development. If determined desirable, incorporate such requirements within the City Building Code.

PROGRAM 6.3.4

Consider opportunities for augmenting the fire protection services which are provided through Butte County Fire Department, including increased firefighter staffing and acquisition of new equipment.

PROGRAM 6.3.5

The City shall consider amending existing ordinances or adopting a new ordinance which requires clear and recognizable addresses for all structures within the City of Biggs.

PROGRAM 6.3.6

Adopt the Uniform Fire Code to enhance Butte County Fire Department's operations in Biggs.

PROGRAM 6.3.7

Consider opportunities to improve the City ISO rating for the safety and economic benefits the an improved rating would net the City and its residents.

GENERAL BACKGROUND

Fire protection services within the City have been provided through a cooperative agreement with the Butte County Fire Department since 1989. This agreement is renewed on a three year basis and is funded on an annual basis by the Biggs City Council and the Butte County Board of Supervisors.

Agreements for mutual assistance have been established between the Butte County Fire Department and various fire protection agencies. In the event of a major fire in Biggs, all County fire departments, the Department of Forestry, and, if necessary, Sutter County and Live Oak fire departments would respond.

FIRE THREAT

The most likely fire threat within Biggs would be a structural fire within a residence or small business.

Additionally, four other types of fires have the potential for resulting in major losses in and around the City. These include: fire or explosion at one of the local agricultural processing plants; major operational failure of the rail service which passes through Biggs; urban conflagration (multiple simultaneous structural fires); and, wildland and vegetation fire on the perimeter of the City.

RESPONSE TIME

Nationally recognized standards for fire and medical emergencies are being met in the City of Biggs. These standards include a maximum three minute response time for alarms of commercial and industrial fires/emergencies and a maximum five minute response time for residential fires/emergencies.

Response time to an emergency situation is also affected by adequate street access for emergency vehicles. Minimum standards for roadway widths and guidelines for ensuring adequate emergency vehicle access are provided within Chapter 3, the Circulation Element, of this general plan.

A final component of rapid emergency response is the clear identification of addresses on homes and businesses. Without clearly recognizable addresses emergency responses may be unnecessarily delayed.

WATER DELIVERY SYSTEM

Domestic water service facilities are discussed in detail within the Public Facilities element. With regard to providing adequate water flows for fire suppression, the City system has several flaws, including a shortage of water supply, improperly designed distribution lines, and hydrants which are sub-standard. Available water capacity and peakload demands for addressing fire suppression demands are addressed in detail within Section 4.2, Public Water System Facilities.

Due to these water system flaws, the Fire Department deploys two water tank trucks on the first alarm for fires in Biggs. Correcting these flaws and avoiding such conditions within future development is an important objective for the City.

FIRE STATION STAFFING/EQUIPMENT

The Biggs fire station is staffed by one officer

24 hours a day year round, assisted by one seasonal firefighter during summer months. The Butte County, Biggs Volunteer Fire Company also operates out of the station.

An additional professional firefighter would enhance services within the City by ensuring that two firefighters arrive on first response (to enter a burning building two teams of two are required by law). Additional staffing would also allow more emphasis on fire prevention and code enforcement activities to reduce overall fire potential.

The station houses three fire engines: a County reserve engine; a City volunteer staffed engine; and, the County career staffed engine. The need exists for a squad vehicle to be staffed by volunteer firefighters.

FUTURE FIRE PROTECTION AGREEMENTS

The 1996 agreement between the City and Butte County for fire protection services is beneficial to the City and also assists Butte County in providing fire protection within this portion of the County. Ideally, the City would continue the arrangement in its current form. However, since this agreement is negotiated every three years, it would be prudent for the City to consider ways of augmenting this arrangement in the future, should this become necessary.

Options which the City might consider include contributing to a new squad vehicle to be staffed by volunteer firefighters, continuing to maintain the City owned engine, and contributing to the costs of increasing firefighter staff at the Biggs station. Additionally, the City should consider pursuing accreditation of the City Fire Department should the opportunity arise.

6.4 POLICE PROTECTION



Butte County Sheriff's Patrol at Biggs Substation

This section discusses issues related to police protection within the community. These services are provided on a contract basis by the Butte County Sheriff's Department.

GOALS, POLICIES AND PROGRAMS

GOAL 6.4

Ensure that police services within the City of Biggs are adequate to protect both people and property in the community.

POLICY 6.4.A

Ensure that response time to police related emergencies is adequate for current and future demands for such services.

POLICY 6.4.B

Promote a safe community through outreach and public education programs.

PROGRAM 6.4.1

The City shall actively pursue programs to reduce existing and future levels of crime, particularly vandalism and violent crimes.

PROGRAM 6.4.2

The City shall pursue programs to involve and educate the community on issues of vandalism and youth related criminal activity.

PROGRAM 6.4.3

Prior to renewal of contracts for police protection services, the City shall review records of criminal activity and consider adjusting contracted services as appropriate.

BACKGROUND

Currently, the City of Biggs contracts for police services from the Butte County Sheriff's Department. In past years the City has maintained its own police department. However, financial limitations led the City to seek outside law enforcement services.

The City has contracted with Butte County for law enforcement services in 1991. A four year contract was established between the City and the County at that time and this contract was renewed for another five years in 1995.

LAW ENFORCEMENT STAFF

The City/County contract provides two full-time officers on duty within the City. Generally, a single officer is on duty during daytime and early nighttime hours, with some overlap during evening hours.

During periods when no officer is on-duty within the City, response is provided by Sheriff's deputies on patrol within the County.

RESPONSE TIME

Law enforcement response times vary considerably based upon whether a law enforcement officer is on-duty within the City. With an officer on-duty, response time is approximately 2 minutes. Without an officer on-duty in the City, response time varies between 6 and 15 minutes, depending on the location of Sheriff's deputies on County patrols.

S.T.A.R.S.

The County Sheriff's Department supports an

active program of volunteers known as S.T.A.R.S. Equipped with radios and patrol car, these volunteers provide a semi-official presence within the community which supports law enforcement activities.

S.T.A.R.S. volunteers make no direct intercessions in the event of criminal activity. Rather, activities involve general observation within the community, house checks for individuals away from town, and supplemental patrol of the community. The value of this program is considerable given the limited presence of law enforcement officers. The S.T.A.R.S. members increase the overall presence of law enforcement within the community.

6.5 *GEOLOGIC HAZARDS*

This section addresses seismic and geologic hazards which could result in structural failures.

GOALS, POLICIES AND PROGRAMS

GOAL 6.5

Minimize the threat of personal injury and property damage due to seismic and geologic hazards.

POLICY 6.5.A

Consider the potential for expansive soils and earthquake related hazards when reviewing applications for developments.

POLICY 6.5.B

A soils report, prepared by a licensed soils engineer, shall be required for all residential subdivisions and development projects. Soils reports shall evaluate shrink/swell and liquefaction potential of sites and recommend measures to minimize unstable soil hazards.

POLICY 6.5.C

Applications for projects which extract groundwater, oil, or gas shall include a report evaluating the potential for resulting subsidence. Reports shall discuss appropriate mitigation measures to reduce the potential for subsidence.

POLICY 6.5.D

The City encourages owners of buildings which are subject to seismic hazards to pursue structural improvements to remedy seismic related hazards.

PROGRAM 6.5.E

The City shall pursue funding options to assist property owners with costs related to seismic safety structural improvements.

PROGRAM 6.5.1

The City shall work with the Butte County Building Department to establish and implement programs to identify buildings which present seismic safety concerns and explore opportunities to assist owners of such structures with accomplishing necessary improvements.

PROGRAM 6.5.3

The City shall monitor the elevation of groundwater at City wells. Fluctuations in groundwater levels shall be recorded to determine long term trends in groundwater elevation.

SUBSIDENCE

Subsidence is the sinking of the ground surface level with little or no horizontal movement or displacement. There are two potential causes of subsidence in Butte County: ground water withdrawal, and oil and gas withdrawal.

Subsidence may cause damage to roads, streams, canals, drains, sewers, and other facilities. The USGS shows a potential subsidence area in a one mile radius around the City of Gridley. Since the City of Biggs relies upon groundwater for domestic water service, monitoring the elevation of groundwater is crucial to avoid the potential for inducing subsidence within the community.

EXPANSIVE SOILS

Expansive soils are soils which have a potential for shrinking and swelling with changes in moisture content. Serious damage to structures, roads and underground public facilities can result from the movement of expansive soils. The amount of soil movement is related to the moisture content of the soil and to the type of clay material in the soil.

The U.S.D.A. Natural Resources Conservation Service has investigated the soil types within Biggs and has classified the shrink/swell potential for each of the soil units in the area. The soils types in the Biggs area fall within two distinct types which have either a low or high shrink/swell potential. *Figure 6.1* depicts the locations of these soil types. Care should be taken to ensure that construction and development projects in the City, particularly in areas of high shrink/swell potential, are properly engineered to minimize hazards of expansive soils. For individual single family homes with slab floors, this may be accomplished by compacting and pre-soaking building site prior to pouring concrete slabs.

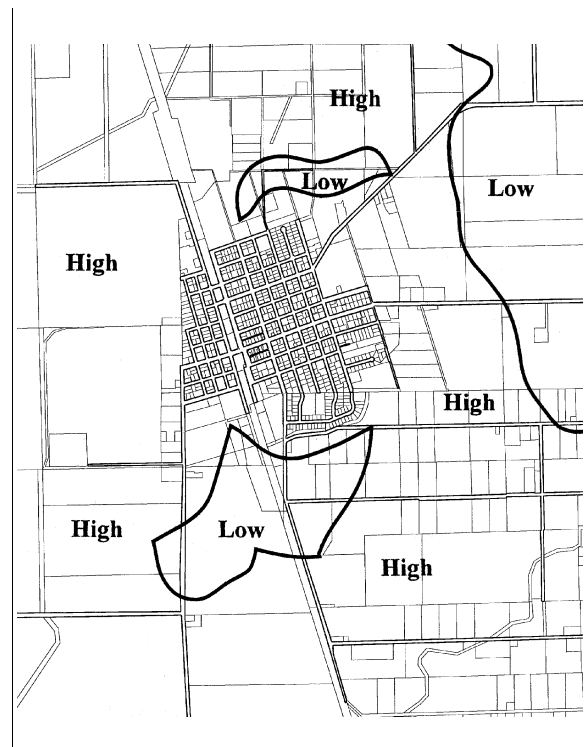


Figure 6.1 - Shrink-Swell Potential

Source: U.S.D.A. Natural Resources Conservation Service

SEISMIC ACTIVITY AND EARTHQUAKE FAULTS

The only known active fault in Butte County is the Cleveland Hill fault, the site of the August, 1975 Oroville earthquake. This earthquake has a Richter magnitude of 5.7. Prior to the 1975 earthquake this fault had not been considered active.

Reports by the California Division of Mines and Geology indicate that the ground motion at Gridley was approximately 0.1 times acceleration of gravity. Similar motion was experienced in Oroville and resulted in considerable structural damage in Oroville. This earthquake was also felt in Chico, but there was no recorded damage. Studies indicate that this fault could have a maximum credible earthquake of 6.5 to 6.7 Richter (Greensfelder, *A Map of Maximum Bedrock Accelerations From Earthquakes in California*).

In addition to the Cleveland Hill Fault, several active and potentially active faults could result in some damage in the City of Biggs.

ACTIVE FAULTS

MIDLAND-SWEITZER FAULT

The Midland-Sweitzer fault is located approximately 40 miles south-southwest of Butte County. This fault is considered capable of producing a magnitude 7.0 Richter earthquake. An earthquake in 1892 resulted in damage as far away as Grass Valley and Lodi.

SAN ANDREAS FAULT

At its nearest point, the San Andreas fault is located approximately 95 miles west of Butte County. The effects of the 1906 earthquake, measured at 8.3 Richter, were reported between V and VI in western Butte County and IV to V in eastern Butte County on the Modified Mercalli Scale.

HAYWARD-CALAVERAS FAULT

The Hayward-Calaveras fault complex is considered to be a branch of the San Andreas fault. An 1868 earthquake is reported to have caused strong fluctuations in the water level in the Sacramento River near Sacramento and in a slough near Stockton.

RUSSELL VALLEY FAULT SYSTEM

The Russell Valley fault system is located in the Sierra Nevada approximately 50 miles east of Butte County. Movement on this fault resulted in the 1966 Truckee earthquake with a reported magnitude between 5.4 Richter and 6.5 Richter. The earthquake was felt in Butte County, but no damage was reported.

Last Chance-Honey Lake Fault Zones

The Last Chance-Honey Lake fault zones are approximately 100 miles long and trend north-northwest along the California-Nevada border. These faults are active and have resulted in earthquakes ranging between 5 and 5.9 Richter.

POTENTIALLY ACTIVE FAULTS

Potentially active faults which could result in significant ground motion in Butte County include the Foothill Shear Zone, Sutter Butte faults, Willows fault, Dunnigan fault, Coast Range thrust zone, Big Bend fault zone, Camel's Peak fault, Melones-Dogwood Peak faults and the Hawkins Valley fault. All of these faults should be considered potentially active due to geologic, historic, or seismic data. Other potentially active faults may also exist within the County.

TABLE 6.2 RICHTER/MODIFIED MERCALLI SCALES FOR EARTHQUAKE INTENSITY		
Richter Scale	Modified Mercalli Scale	Effects of Intensity
0.1-0.9	I	Earthquake shaking not felt.
1.0-2.9	II	Shaking felt by those at rest.
3.0-3.9	III	Felt by most people indoors; some can estimate duration of shaking.
4.0-4.5	IV	Felt by most people indoors. Hanging objects rattle, wooden walls and frames creak.
4.6-4.9	V	Felt by everyone indoors; many estimate duration of shaking. Standing autos rock. Crockery clashes, dishes rattle, and glasses clink. Doors open, close & swing.
5.0-5.5	VI	Felt by all who estimate duration of shaking and direction. Sleepers awaken, liquids spill, objects displaced, weak materials crack.
5.6-6.4	VII	People frightened and walls unsteady. Pictures & books thrown, dishes/glass are broken. Weak chimneys break. Plaster, loose bricks & parapets fall.
6.5-6.9	VIII	Difficult to stand, waves on ponds, cohesionless soils slump. Stucco & masonry walls fall. Chimneys, stacks, towers and elevated tanks twist & fall.
7.0-7.4	IX	General fright as people thrown down. Hard to drive, trees broken, damage to foundations and frames. Reservoirs damaged, Udg. pipeline broken.
7.5-7.9	X	General panic, ground cracks, masonry & frame buildings destroyed. Bridges destroyed, dams, dikes & embankments damaged. Railroads bent slightly.
8.0-8.4	XI	Large landslides, water thrown, general destruction of buildings, pipelines destroyed, railroads bent.
8.5+	XII	Total nearby damage, rock masses displaced. Lines of sight/level distorted. Objects thrown into air.

Source: California Department of Conservation
Division of Mines and Geology

Modified Mercalli Scale ratings. Based upon current knowledge of geologic and seismic conditions, the maximum probable earthquake would measure 6.5 Richter and would be generated by the Cleveland Hill Fault.

As noted in *Table 6.2*, the maximum anticipated earthquake of 6.5 would result in damage to unreinforced masonry walls, brick and stucco walls, and some chimneys. Such damage could be significant within Biggs given the age and construction method of some of the older buildings within town.

LIQUEFACTION

Liquefaction is the result of the sudden earth movement during an earthquake which can transforms a granular material from a solid state into a liquified state. Liquefaction potential of sites in the Sacramento Valley varies depending on the relative densities of the sandy soils underlying each site. Butte County has classified the entire planning area of the City of Biggs as having a moderate potential for liquefaction, unless loose, clean granular sand layers are present.

Soils reports required in Policy 6.5.B will identify and address the liquefaction potential associated with specific development projects.

Table 6.2 provides an explanation of the

6.6 *HAZARDOUS WASTE AND MATERIALS*

The Butte County Hazardous Waste Management Plan directs hazardous waste management activities throughout the County and within the City of Biggs.

GOALS, POLICIES AND PROGRAMS

GOAL 6.6:

Minimize the risk of personal injury, property damage, and environmental degradation resulting from the use, transport, disposal, and release/discharge of hazardous materials.

POLICY 6.6.A

The City supports the provisions of the Butte County Hazardous Waste Management Plan.

PROGRAM 6.6.1

Continue to coordinate hazardous waste management programs with the Butte County Hazardous Waste Management Plan and the Butte County Emergency Operations Plan.

BACKGROUND

The Butte County Hazardous Waste Management Plan, February, 1989, includes the City of Biggs and was prepared pursuant to State Law adopted in 1987. As part of the plan, the City of Biggs adopted Resolution No. 2 (1988 Series), establishing waste/source reduction as a priority in the use and management of hazardous materials.

The Butte County Fire Chief's Interagency Hazardous Material Response Team is a group of firefighters from throughout the County which have received special training for responding to hazardous materials incidents. The specialized knowledge of this

team allows for safe and effective response to situations which by their nature can be quite dangerous.

The City will encourage and promote practices and technologies that will:

- Reduce the use of hazardous substances and the generation of hazardous wastes at their source.
- Recover and recycle the remaining wastes for reuse.
- Treat those wastes not amenable to source reduction or recycling so that the environment and community health are not harmed by their ultimate release or disposal.

It should be noted that the City of Biggs is a partner in the Joint Powers Agreement (JPA) Hazardous Materials Response Team. This level of service and protection is unusual for a town the size of Biggs.

RAIL TRANSPORT OF HAZARDOUS MATERIALS

The Union Pacific Railroad line which passes through the City represents the greatest potential threat for creation of a hazardous waste incident. Railroad related hazards are discussed under the section 6.7 Rail Service Related Hazards.

6.7 RAIL SERVICE RELATED HAZARDS



Union Pacific Railroad within Biggs

The Union Pacific Railroad line passes through the City of Biggs between Seventh and Eighth Streets. Safety hazards related to this major rail line are significant.

GOALS, POLICIES AND PROGRAMS

GOAL 6.7

Minimize the potential for hazards related to rail service in and around the City of Biggs.

POLICY 6.7.A

Rail related hazards shall be considered prior to approval of new development projects and roadway improvements in the immediate vicinity of the Union Pacific Railroad tracks.

PROGRAM 6.7.1

The City shall consult with the Union Pacific Railroad Company to determine ways to minimize hazards related to at-grade rail crossings within Biggs.

PROGRAM 6.7.2

The City shall endeavor to monitor the operation of at-grade crossings within the City limits and shall immediately report any problems with gate function to the rail line operator.

RAIL RELATED HAZARDS

TRANSPORTATION OF HAZARDOUS MATERIALS

Hazardous materials are regularly shipped via the rail line and, while unlikely, an incident involving a rail accident within the City could have devastating effects.

Unfortunately, the City has little control over the types of materials that are shipped via the rail line. With regard to government activities, the content of shipments may be confidential for reasons of security. While the City has little influence over the types of material transported via the rail line, the potential for rail incidents can be reduced by ensuring that at-grade crossings within the City are operating in a safe and effective manner.

POTENTIAL FOR COLLISION

One of the primary concerns is the safety of pedestrians along the tracks and vehicles utilizing at-grade crossings on B Street, E Street and F Street. The second primary concern, while unlikely, is an incident involving derailment of a train in the vicinity of Biggs and the hazards which could result from spillage of the cargo which the train is transporting.

AT GRADE CROSSINGS

The design and operation of at-grade crossings is the aspect of rail related hazards which is most under the control of the City. Currently, three at-grade crossings exist within the City. Each of these crossings is controlled by automated gates.

Grade separated crossings (overcrossings) improve safety within the community by reducing collision potential and ensuring that emergency vehicles can always cross the tracks. However, such crossings are cost prohibitive and would significantly impact existing development adjacent to the existing crossing sites.

Given the land use and financial impacts of

grade-separated crossings it is unlikely that the at-grade crossings within Biggs can be eliminated. Therefore, ensuring proper gate operation at the crossings is the most effective strategy the City can employ to avoid collisions.

Proper gate functioning includes ensuring that gates are not in the lowered position unnecessarily. Lowering of gates for excessive time duration or when trains are not present can encourage drivers to maneuver around gates. Over time, such practices can increase the potential for a train/vehicle collision.

7. NOISE



A Quiet Day on B Street in Biggs

- Introduction
- 7.1 Goals, Policies and Programs
- 7.2 Noise Measurement
- 7.3 Community Noise Survey
- 7.4 Roadway Noise
- 7.5 Railroad Noise
- 7.6 Industrial Noise

INTRODUCTION

LEGAL BASIS AND REQUIREMENTS

The legal requirements of the general plan noise element are defined within Government Code Section 65302(f) as follows:

"[The general plan shall include] a noise element which shall identify and appraise noise problems in the community. The noise element shall analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels for all of the following sources:

- 1) Highways and freeways
- 2) Primary arterials and major local streets
- 3) Passenger and freight railroad operations

- 4) Commercial, general aviation, aircraft overflight and ground facilities related to airport operation.
- 5) Local industrial plants.
- 6) Other ground stationary noise sources which contribute to the community noise environment."

Government code requires that noise contours be shown for the above noise sources based on noise monitoring and accepted noise modeling techniques. The noise contours are to be used as a guide for designating land uses within the land use element that minimizes the exposure of community residents to excessive noise.

OVERVIEW

Compatibility between noise generated by various land uses and the sensitivity of surrounding land uses to the noise environment is an important planning consideration. Noise level compatibility varies with numerous factors, including:

- Background noise levels
- Intensity of noise source
- Character of noise source
- Frequency of noise
- Timing of noise (day vs. night)
- Sensitivity of adjacent land uses

The information presented within this element is based upon various sources, including field measurements of community noise levels, observations of existing traffic levels, railroad activity data provided by Union Pacific Railroad Company, existing City land uses and projections for future land uses and transportation (road and rail) activities.

The findings of the noise element have aided in the development of the general plan land use diagram. Where possible, land uses have been arranged to avoid exposure of sensitive land uses to excessive noise levels.

This element also seeks to protect existing

and future industrial uses from encroachment by noise sensitive uses. Unchecked, such encroachment can lead to land use conflicts and ultimately require relocation of the industrial use.

SETTING

Located in the southwest portion of Butte County, Biggs has a strong cultural and economic relationship with agriculture. As such, the residents of Biggs are generally tolerant of noise levels related to agricultural transport and processing.

From late spring through early fall, large truck traffic passing through Biggs periodically increase significantly. Additionally, agricultural processing plants are located within and immediately adjacent to the City and seasonal drying and milling operations produce significant noise levels.

However, by far the greatest noise generator in Biggs is the Union Pacific Railroad Company (UPRC) railroad which passes through the western portion of Biggs. Originally serving primarily agricultural interests, the tracks are now part of a major rail corridor which connects the Pacific Northwest with southern California. As of January 1997, approximately 22 trains passed through Biggs daily and rail activity is expected to increase in the future.

DEFINITIONS

Noise evaluation is one of the more technical components of the general plan. The purpose of the element is to minimize negative effects of noise within the community. However, each individual experiences noise differently due to variations in hearing ability. Also, how often a noise occurs and the time of day it occurs affect the impact a noise source will have on the community.

The following terms are commonly used to define the impact a given noise source will have on a community.

Ambient noise: Ambient noise refers to the total noise associated with an environment.

Decibel (dB): dB is an objective measure of the pressure that sound waves generate. Decibels may be measured with a noise meter.

A-Weighted Decibels (dBA): dBA refers to a filtered noise meter measurement which simulates how people perceive noise.

Energy-Equivalent Level (L_{eq}): L_{eq} measures individual noises for a period of time (typically for one-hour) and determines the average noise level.

Day-Night Average Noise Level (L_{dn}): L_{dn} is a formula based on L_{eq} values which is weighted to reflect the greater significance of noise at night (10:00 p.m. to 7:00 a.m.).

Community Equivalent Noise Level (CNEL): CNEL is a more sophisticated version of L_{dn} which also values evening noise (7:00 p.m. to 10:00 p.m.) as more significant. Typically, results of CNEL and L_{dn} analysis for a given situation are very similar.

7.1 GOALS, POLICIES AND PROGRAMS

GOAL 7.1

Protect City residents from the harmful and annoying effects of exposure to excessive noise and protect industrial land uses from encroachment by noise sensitive land uses.

POLICY 7.1.A

The feasibility of proposed projects shall be evaluated by comparison to *Table 7.1 - Land Use Feasibility Guidelines for Development*.

POLICY 7.1.B

New development of noise-sensitive uses shall not be allowed where the noise level due to non-transportation noise sources will exceed the noise level standards of *Table 7.2 - Maximum Allowable Noise Exposure* as measured immediately within the property line of the new development, unless effective noise mitigation measures have been incorporated into the development design to achieve the standards specified in *Table 7.2*.

POLICY 7.1.C

Where noise mitigation measures are required to achieve the standards of *Table 7.2* and *Table 7.3 - Noise Level Performance Standards*, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project.

POLICY 7.1.D

Noise created by new proposed non-transportation noise sources shall be mitigated so as not to exceed the noise level standards of *Table 7.3* as measured immediately within the property line of lands designated for noise-sensitive uses.

POLICY 7.1.E

Where proposed non-residential land uses are likely to produce noise levels exceeding the performance standards of *Table 7.3* within the property line of existing or planned noise-sensitive uses, an acoustical analysis, as described in *Table 7.4 - Guidelines for Acoustical Analysis*, shall be required as part of the environmental review process of the proposed project.

POLICY 7.1.F

Where noise-sensitive land uses are proposed in areas of existing or projected exterior noise levels exceeding the levels specified in *Table 7.2*, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.

POLICY 7.1.G

Where noise sensitive land uses are proposed in areas subject to railroad noise, such uses may be conditionally acceptable in areas of up to 70 dB L_{dn} /CNEL, subject to requirements of *Table 7.2, Note 4*.

TABLE 7.1 LAND USE FEASIBILITY GUIDELINES FOR DEVELOPMENT

Land Use Category		Community Noise Exposure Ldn or CNEL, dB						
		55	60	65	70	75	80	
Residential, Theaters, Meeting Halls, Churches, Auditoriums	F.							
	C.F.							
	G.U.							
Transient Lodging, Motels, Hotels	F.							
	C.F.							
	G.U.							
Schools, Libraries, Hospitals, Child Care, Museums	F.							
	C.F.							
	G.U.							
Playgrounds, Neighborhood Parks, Amphitheaters	F.							
	C.F.							
	G.U.							
Office Buildings, Business, Commercial and Professional	F.							
	C.F.							
	G.U.							
Industrial, Utilities, Manufacturing, Agriculture	F.							
	C.F.							
	G.U.							
Golf Courses, Riding Stables, Outdoor Spectator Sports	F.							
	C.F.							
	G.U.							

F. : Feasible
Specified land use is acceptable. No noise mitigation is required.

C.F. : Conditionally Feasible
Use should be permitted only after careful study and inclusion of protective measures as needed to satisfy policies of the Noise Element.

G.U. : Generally Unfeasible
Development is usually unacceptable in accordance with the goals of the Noise Element.

TABLE 7.2 MAXIMUM ALLOWABLE NOISE EXPOSURE			
Land Use	Outdoor Areas ¹ $L_{dn}/CNEL$, dB	Interior Spaces	
		$L_{dn}/CNEL$, dB	L_{eq} , dB ²
Residential	60 ^{3,4}	45	--
Transient Lodging	60 ^{3,4}	45	--
Hospitals, Nursing Homes	60 ^{3,4}	45	--
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	60 ^{3,4}	--	40
Office Buildings, Commercial	--	--	45
Schools, Libraries, Museums	--	--	45
Playgrounds, Parks	70	--	--

Notes:

- Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.
- As determined for a typical worst-case hour during periods of use.
- Where it is not possible to reduce noise in outdoor activity areas to 60 dB $L_{dn}/CNEL$ or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB $L_{dn}/CNEL$ may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.
- Where the noise source is the railroad, an outside noise level of up to 70 dB $L_{dn}/CNEL$ is conditionally acceptable provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

TABLE 7.3 NOISE LEVEL PERFORMANCE STANDARDS NON-TRANSPORTATION SOURCES		
Noise Level Descriptor	Daytime 7 am to 10 pm	Nighttime 10 pm to 7 am
Hourly L_{eq} , dB	55	45
Maximum dB	75	65
Noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).		

Note: Transportation noise sources are defined as traffic on public roadways, railroad line operations and aircraft in flight.

TABLE 7.4 GUIDELINES FOR ACOUSTICAL ANALYSIS	
1.	Analysis is the financial responsibility of the applicant.
2.	Analysis shall be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.
3.	Noise levels shall be documented with sufficient sampling periods and locations to adequately describe local noise conditions and noise sources.
5.	Existing and projected (20 years) noise levels shall be estimated in terms of L_{dn} or CNEL and levels shall be compared to the policies of the Noise Element.
6.	Mitigation shall be recommended to comply with the standards of the Noise Element, giving preference to site planning and design rather than noise barriers or structural modifications for buildings with noise-sensitive land uses.
7.	Noise exposure after the prescribed mitigation measures have been implemented shall be estimated.
8.	A post-project assessment program to evaluate the success of mitigation measures shall be described.

7.2 NOISE MEASUREMENT

Noise is often defined simply as unwanted sound, and thus is a subjective reaction that will vary from person to person. Noise descriptors have been developed to assist with correlating objective measurements of sound to the general public's reaction to noise.

Ambient noise level is the total noise associated with a given environment. Ambient noise is generally measured in A-weighted decibels (dBA). A decibel (dB) is an objective measure of the pressure of sound waves traveling out from a noise source. The dBA refers to a filter within noise measurement devices that corrects the actual sound pressure (dB) and reflects more closely how a person would perceive the sound. This is necessary to correct for how people perceive sounds at different frequencies.

Noise is typically described over a period of time as the energy-equivalent level (L_{eq}), the day-night average noise level (L_{dn}), and the community equivalent noise level (CNEL). These descriptions are based on formulas that consider how often a noise occurs and at what time a noise occurs. For instance, a train passing through Biggs once per day will have less impact than twenty trains per day which individually generate the same noise level. Also, a noise is considered to have greater impact if it occurs at night when background noise is low and people are sleeping, as compared to a noise which occurs during the day. Both the L_{dn} and the CNEL noise descriptors are commonly used in evaluating noise exposure levels associated with various land uses. Noise modeling techniques and noise measurements were used to develop generalized L_{dn} /CNEL or L_{eq} noise contours for the major roadways, railroads and fixed noise sources in the City of Biggs.

associated with common noise sources, objective noise levels (decibels) and the subjective perception of the noise levels.

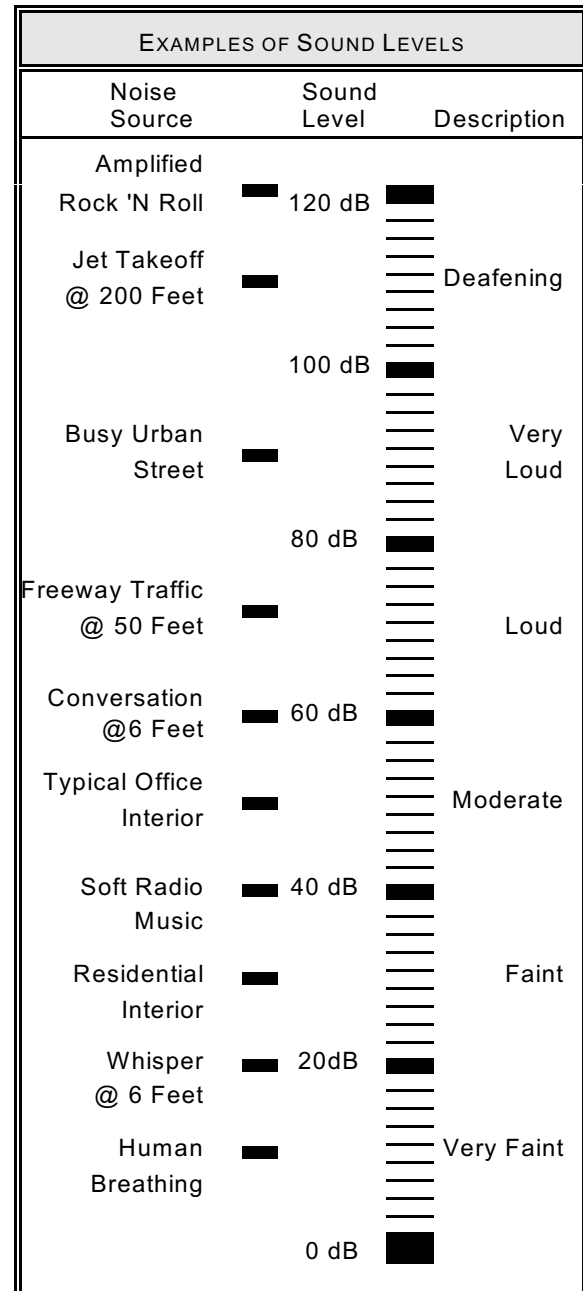


Figure 7.1 - Examples of Sound Levels

Source: 1990 General Plan Guidelines

Figure 7.1 - Examples of Sound Levels, combines examples of noise levels

7.3 COMMUNITY NOISE

SURVEY

A small-scale community noise survey was conducted to generally document noise exposure in two representative areas of the City. One continuous noise measurement site and one short-term location were utilized to assess existing ambient noise conditions in Biggs.

The continuous measurement site was the same as utilized for the railroad noise measurements, located at the corner of Seventh and B Streets. When trains are not present in Biggs, this site is believed to be reasonably representative of the ambient noise environment in the proximity of B Street, one of the City's main thoroughfares.

The results of the continuous noise level measurement survey describe a typical 24-hour weekday period at B Street. While the maximum and average noise levels at this location are heavily influenced by railroad activity, as is expected at locations 100 feet from the railroad tracks, the median and background noise levels are not significantly influenced by railroad activity, and would therefore be typical of ambient noise conditions along the B Street corridor.

A second community noise survey location in Biggs was located at the corner of Fourth and D Streets. This location is representative of residential areas in Biggs which are not located near major streets, the railroad tracks or industries. *Table 7.5 - Summary of Measured Noise Levels* shows the noise levels measured at this location, as well as those measured near B Street.

Site/ Location	Time of Day	Sound Level, dB ¹			
		L _{max}	L _{eq}	L ₅₀	L _{max}
1. Corner of Seventh and B Streets	11:30 am	68	57	54	50
2. Corner of Fourth and D Streets	12:00 noon	68	51	40	36
¹ These data represent typical midday ambient noise levels at commercial and residential locations in Biggs, respectively.					

Noise measurements were taken at various locations within Biggs which are identified on *Figure 7.2 - Noise Monitoring Locations*. The results of noise measurements and modeling for Biggs are depicted on *Figure 7.3 - Existing Railroad Noise Contours*, and *Figures 7.4 and 7.5* which depict noise contours for the Comet Rice and the Red Top Rice facilities. Existing and future traffic related noise levels are presented in *Table 7.6 - Roadway Related Noise Contours*. Additional information on noise measurement and modeling techniques is contained within the Appendix of this general plan.

TABLE 7.5
SUMMARY OF MEASURED NOISE LEVELS AND

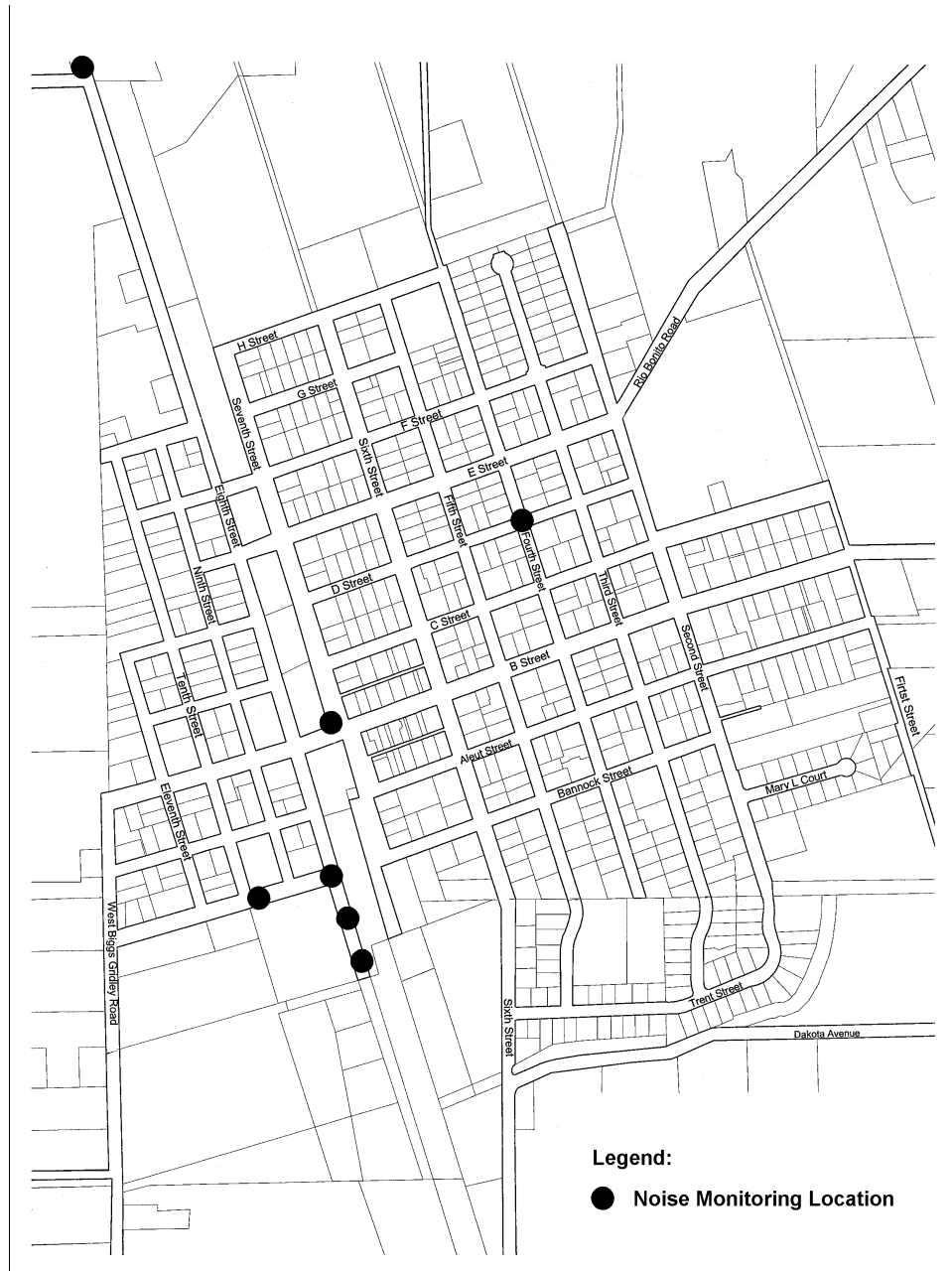


Figure 7.2 - Noise Monitoring Locations
 Noise Measurements conducted by Brown Buntin & Associates

Measurements at B Street and the Union Pacific Railroad were conducted for a seven day period of January 30 through February 6, 1997.
 All other noise measurements were short-term field surveys.

7.4 ROADWAY NOISE



The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to develop L_{dn} contours for major roads in the City of Biggs. The FHWA Model considers noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration and distance to the receiver.

Traffic data representing annual average day/night traffic distributions for selected roadways are based upon individual traffic counts. Truck mix data are based upon conversations with City of Biggs staff and Brown Buntin and Associates file data. Vehicle speeds throughout the City of Biggs are assumed to be approximately 30 mph. Using these data, traffic noise levels as defined by L_{dn} were calculated for existing traffic volumes. Distances from the centerlines of roadways to the 60 dB L_{dn} contours are summarized in *Table 7.6, Traffic Related Noise Contours*. The FHWA Model input data are provided in the Appendix of this general plan.

The actual distances to noise level contours may vary from the distances noted in *Table 7.6* predicted by the FHWA model. Factors such as roadway curvature and grade,

shielding by local topography or structures, elevated roadways, or elevated receivers may affect actual sound propagation.

Traffic noise contours were not developed for all roadway segments in the City of Biggs. However, *Table 7.6*, prepared using the FHWA Model, may be used to estimate the distance to the 60 dB L_{dn} contour for projected volumes of arterial traffic. L_{dn} contours derived from *Table 7.6* are only estimates of traffic noise exposure, and would require more detailed analysis to determine traffic noise levels at any given location.

TABLE 7.6
ROADWAY RELATED NOISE CONTOURS

ROAD SEGMENT	Average Daily Traffic		Distance to 60 dB Ldn Contours ¹	
	Existing ²	Future ³	Existing ²	Future ³
B Street	2,171	2,763	31 feet	38 feet
E Street	1,125	1,354	20 feet	25 feet
Second St.	715	730	15 feet	16 feet
Fourth St.	445	712	11 feet	15 feet
Sixth St.	730	1,032	15 feet	19 feet
Eighth St.	1,497	1,690	24 feet	27 feet
Trent St.	303	349	8 feet	9 feet
W. Rio Bonito	1,075	1,226	20 feet	22 feet
B St. (East)	2,504	4,041	34 feet	49 feet
W. Biggs/ Gridley Rd.	2,019	2,575	30 feet	36 feet
Sixth St. (South)	902	1,367	17 feet	24 feet

Source: City of Biggs Planning Department, BBA file data and FHWA Model (RD-77-108)

¹ Noise contour locations are measured from the centerline of road.

² Distance to noise contours based upon noise field surveys by Brown Buntin and Associates and traffic field surveys conducted for the City of Biggs.

³ Future traffic and noise levels based upon 2015 build-out as described within the General Plan Land Use Element.

7.5 RAILROAD NOISE



Train Passing Through Biggs

Railroad activity in the City of Biggs occurs along the Union Pacific Railroad Company (UPRC) mainline track which runs in a north/south direction through the western portion of the City.

Noise measurements were conducted at the corner of Seventh and B Streets between January 30 and February 6, 1997. The measurements were conducted to determine typical sound exposure levels (SEL) for railroad line operations in Biggs, accounting for the effects of travel speed, warning horns and other factors which may affect noise generation. The data was compared to other file data for railroad operational noise levels and an annual average L_{dn} was calculated.

In the City of Biggs, locomotives (with warning horns) and wheel noise on the tracks were the major contributors to railroad generated SEL. Based upon the noise level measurements, the average SEL for freight train operations along the UPRC railroad track was 108 dB at a distance of 100 feet from railroad track centerline.

During the noise monitoring period extending from January 30 to February 6, 1997, an average of 19 trains per day were recorded. UPRC officials have stated that approximately 20 freight trains and 2 Amtrack passenger trains pass through Biggs daily. Due to the 1996 merger between the Southern Pacific Railroad Company and the Union Pacific Railroad Company and the improved routes created by the merger,

railroad activity passing through Biggs will likely increase in the future.

Given the likelihood that rail operations will increase in the future, analysis of railroad noise levels in Biggs was performed using a range of daily operations between 20 and 30 trains per day. *Table 7.7 - Railroad Related Noise Contours* notes estimated noise and distances to the 60 dB, 65 dB and 70 dB noise contours. Railroad related noise contours are also depicted on *Figure 7.3 - Existing Railroad Noise Contours*. Additional information on the methodology of noise modeling is provided in the Appendix of this general plan.

TABLE 7.7 Railroad Related Noise Contours					
Daily Trains	L_{dn} , dB		Distance to L_{dn} Contour (feet)		
	50' From Track	100' From Track	60 dB	65 dB	70 dB
20	83	78	1590'	738'	343'
25	83	79	1845'	856'	397'
30	84	80	2083'	967'	449'

SOURCE: BROWN BUNTIN & ASSOCIATES



Figure 7.3 - Existing Railroad Noise Contours
Generated based upon Field Noise Surveys

Source: Brown Buntin & Associates

7.6 INDUSTRIAL NOISE SOURCES



Red Top Rice, Adjacent to Biggs

Production of noise is a result of many industrial processes, even when the best available noise control technology is applied. Noise exposures within industrial facilities are controlled by Federal and State employee health and safety regulations (OSHA and Cal-OSHA), but exterior noise levels may exceed locally acceptable standards. These noise sources can be continuous and may contain tonal components which could be annoying to individuals who live in the nearby vicinity. In addition, noise generation from fixed noise sources may vary based upon climatic conditions, time of day and existing ambient noise levels.

From a land use planning perspective, fixed-source noise control issues focus upon two goals: to prevent the introduction of new noise-producing uses in noise-sensitive areas, and to prevent encroachment of noise sensitive uses upon existing noise-producing facilities. The first goal can be achieved by applying noise level performance standards to proposed new noise-producing uses. The second goal can be met by restricting the establishment of noise-sensitive uses in proximity to noise-producing facilities.

Uses which may produce the noise levels of concern include but are not limited to:

industrial facilities, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers and athletic fields.

Land uses in the City of Biggs consist primarily of residences, a couple schools, commercial uses along B Street, and a few heavy industrial uses. The primary fixed noise sources in the City are the rice milling and drying operations located along the western edge of Biggs. Discussion of the two largest and most significant noise-producing rice milling/drying operations are presented below.

COMET RICE - 507 BANNOCK STREET

The Comet Rice facility in Biggs mills and dries rice. Significant noise producing equipment at this facility consists of rice milling and drying equipment, as well as

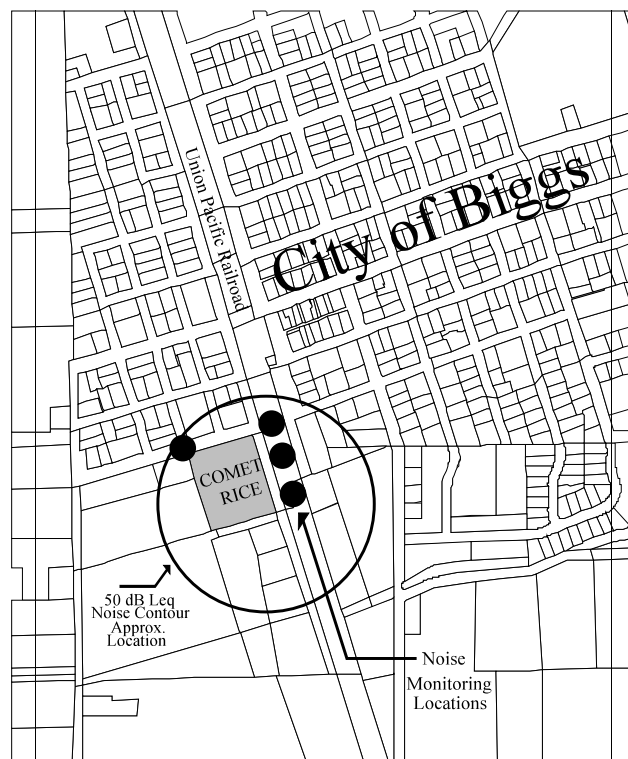


Figure 7.4 - Comet Rice Noise Contour
Approximate Location of 50 dB Leq Contour

heavy truck traffic. The plant operations are dictated by demand, and it is not unusual for the plant to operate 24-hours per day. The facility typically generates approximately 30 truck trips per day, and the truck drivers are advised to avoid residential streets to the extent practical. The plant is also served by one railroad operation per week. It was further reported by the plant manager that, as of January, 1997, there were no noise complaints lodged against this operation that he was aware of and that there were no pending plans for expansion of the plant.

Noise measurements of the plant in operation were conducted on January 30, 1997. During the measurement period, it was reported that the plant milling equipment was operating, but that the drying equipment was not. Noise measurements were conducted at four locations near the plant, as illustrated by *Figure 7.1*. Measured average noise levels ranged from 51 to 65 dB L_{eq} at distances of 150 to 300 feet from the plant. In general, the most significant noise producing equipment at this facility is located near the southeast portion of the plant. *Figure 7.4* shows the approximate location of the 50 dB L_{eq} noise contours for this facility. More precise locations of the plant noise contours can not be determined without measurements of the plant in full operation.

Contact: Mr. Curtis McNutt - Plant Manager

RED TOP RICE - 3200 EIGHTH STREET

The Red Top facility dries and stores rice. Primary noise sources consist of fans, motors, related drying equipment and heavy truck traffic. The facility utilizes three large dryers, but only one was in operation at the time of the noise measurement. There is no railroad activity associated with Red Top. Hours of operation vary according to demand. During the harvest season (September through mid-November), there are approximately 150 trucks per day bringing in rice. During this period the plant reportedly operates 24-hours per day. Between

November and August, there are reportedly about 4,000 truck loads out of the plant. The plant manager reports no current plans for expansion.

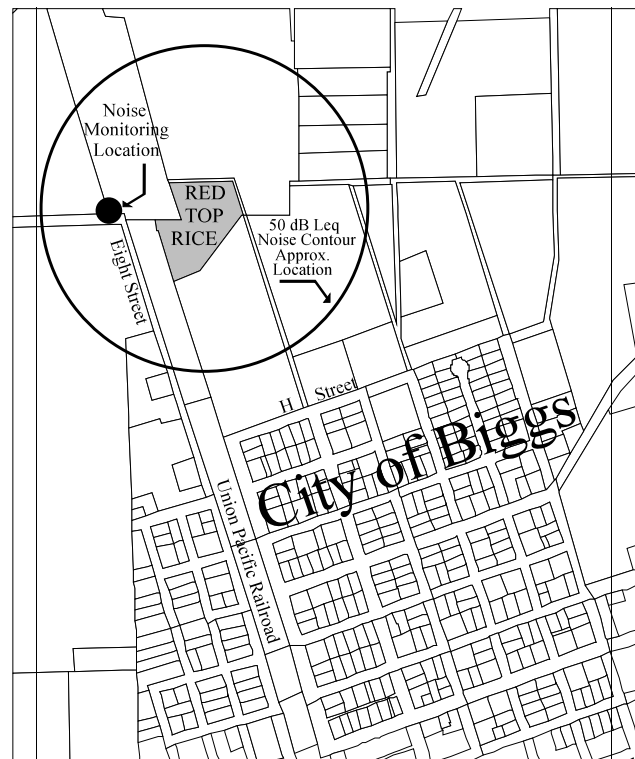


Figure 7.5 - Red Top Rice Noise Contour
Approximate Location of the 50 dB L_{eq} Contour

Noise measurements of the plant in operation were conducted on January 30, 1997. During the measurement period, it was reported that of the three large dryers at the facility, only one was in operation. Noise measurements were conducted at a location approximately 500 feet from the operating dryer, as depicted on *Figure 7.1*. The measured average noise level at that location was 57 dB L_{eq} . *Figure 7.5* shows the approximate location of the 50 dB L_{eq} noise contours for this facility, assuming all three dryers are in operation. More precise locations of the plant noise contours can not be determined without measurements of the plant in full operation.

Contact: Mr. Steve Cribari - Plant Manager

8. POPULATION

Population - The population in Biggs totaled 1581 in 1990. The Department of Finance estimates the population to be 1,640 in 1995. Between 1980 and 1990 the population increase of 168 amounted to a total growth rate of about 12 percent or an average growth rate of 1.2 per cent per year. This was significantly below the average state wide rate of 26 percent. Population statistics for previous years are shown in Table 3.

TABLE 3
POPULATION STATISTICS
FROM 1930 to 1990
CITY OF BIGGS

Year	Population	Average Increase
1930	436	
1940	547	2.3%
1950	784	3.7%
1960	831	0.6%
1970	1,115	3.0%
1980	1,413	2.4%
1990	1,581	1.1%

Source: City of Biggs Housing Element, 1990 U. S. Census

Table 4 presents Department of Finance population data for the City of Biggs as of January, 1996. The average annual growth rate for this six year period is approximately 0.8%. The reduction in population for the 1992 through 1994 period is somewhat common for cities across the state as economic conditions have led to out-migration to other states.

Table 4
Population Changes for 1990 - 1996

Year	Population	Annual Change
1990	1,581	
1991	1,630	3.1%
1992	1,630	0%
1993	1,620	-0.6%
1994	1,610	-0.6%
1995	1,640	1.8%
1996	1,640	0%

Population Trends - During the decade of 1980 to 1990 the population growth rate was about 1.2 percent per year. Over the longer thirty year term the city population has doubled in size. Various scenarios of growth to the year 2010 are depicted in Table 4 using growth rates of 1.5 percent, 2.0 percent and 3.0 percent per year. It is expected that the growth rate in Biggs will fall between two and three percent during the next ten years. Pressure from the continuing urbanization of Chico and Oroville will spill over into Biggs. Some families will be looking for a small town setting to raise their children. Other families will look for more affordable housing which is usually found in smaller towns.

Table 4
Population Growth Projection thru 2020

ANNUAL GROWTH RATE					
YEAR	1.0%	1.5%	2.0%	2.5%	3.0%
1995	1,640	1,640	1,640	1,640	1,640
2000	1,656	1,665	1,673	1,681	1,689
2005	1,673	1,690	1,706	1,723	1,740
2010	1,690	1,715	1,740	1,766	1,792
2015	1,707	1,741	1,775	1,810	1,846
2020	1,723	1,767	1,811	1,856	1,901

Projected Land Utilization - The projected land use is based on the expectation that Biggs will be successful in its effort to restore its commercial area; that its industrial area will expand; and that its residential growth rate will increase to two percent per year. In order to provide space for the future land uses, the City will need to expand as outlined in Table 5.

TABLE 5
PROJECTED LAND USE IN ACRES
WITHIN THE CITY LIMITS

Land Use	Existing	Increase	Year 2015
Res.	215	<i>124</i>	<i>339</i>
Comm.	10	<i>5</i>	<i>15</i>
Ind.	15	<i>10</i>	<i>25</i>
School	30	<i>44</i>	<i>74</i>
Pub/City	10	<i>10</i>	<i>20</i>
Vacant	12	<i>37</i>	<i>49</i>
Total	292	<i>230</i>	<i>522</i>

The residential acreage represents an increase of about 180 dwelling units by the year 2000 and another 240 dwelling units by the year 2010 based on a density of 4.5 du/acre and 3.0 people per dwelling unit.

William O. Douglas,
Justice of the U.S. Supreme
Court

"A quiet place where yards
are wide, people are few, and
motor vehicles restricted are
legitimate guidelines in a
land use project addressed to
family needs."

INSPECTION

Frequent general inspection and more detailed inspections at longer intervals are required to monitor road conditions. The condition of road facilities should be noted to determine maintenance and procedures necessary to keep facilities in satisfactory condition.

SCHEDULED PREVENTIVE MAINTENANCE

Regular maintenance of roads required to maximize the service life of a facility. Such maintenance can include replacement of facilities when needed. This work is undertaken within scheduled programs.

NONSCHEDULED MAINTENANCE AND REPAIRS

Generally comprises repairs required by the breakdown of a facility or damage resulting from an accident.

CLEANING OR CLEAN-UP ACTIVITIES

Includes the removal, as necessary or on a scheduled basis, of debris or litter from the road or related facilities.